CONTAINMENT ZONE ALERTING APPLICATION

PROJECT NAME	CONTAINMENT ZONE ALERTING APPLICATION
TEAM ID	PNT2022TMID51548
TEAM MEMBERS	1 S I V A T 2 SIBIN RAJ V 3 ABINESH S 4 CHANDRU R
BRANCH	COMPUTER SCIENCE AND ENGINEERING

1. INTRODUCTION :

Currently there are several research works undergoing in the country to prevent Covid-19 cases from rising. Previously our country was importing medical kits like PPE (Personal Protection Kits), mask from outside, but now it has been successful in developing these kits. Along with taking initiatives to fight this disease, our country has also taken steps to make people aware of the disease. The news and media have a great part in creating this awareness by informing the public about the preventive measures that can keep them away from infection. Awareness among the people to carry out all the preventive measures can immensely help to reduce spread of the virus. The country has created containment zones throughout the cities wherever Covid-19 cases have been reported to prevent further spread of the virus. These containment zones have been kept isolated from the outside public to ensure no contamination occurs outside.

1.1 PROJECT OVERVIEW:

1 Sign-up verification by phone number. User registration contains name, age, home address, work address (optional).

2. User locations are tracked by explicit user choice and stored in local storage only. During tracking user is

3. User uploads locally stored tracked locations and home address after testing positive for COVID-19. These locations are stored in cloud storage. Note that, no other user information except the locations are accessible by other users. Nevertheless, in case of false information administrative measures can be taken to track down the culprit (not implemented yet).
4. The App queries the database storage of infected locations by locally stored locations and notifies the user immediately if a match is found. This background process runs once every hour.
5. Users can view and post queries or relief requests through a global news feed, similar to other social media platforms.
6. Relief request posts are anonymous and provide only a post author contact number, which was used for verification. Other users willing to help can contact him through the app using the phone number.

1.2 PURPOSE:

In this situation where people can move in the city, these containment zones pose a risk of infection to these city dwellers. Therefore, informing people about the location of the containment zones can help them bypass and avoid these zones and thereby reduce the chance of community transmission.

2. LITERATURE SURVEY :

I T. Kalyani, S. Monika, B. Neresh, Mahendra Vucha – "Accident Detection and Alert System" (December-2018). To protect the vehicle and tracking so many advanced technologies are available in a day. The Existing system also provides the location of the accident using at mega 328 Microcontroller and RF transmitter and receiver. The information is sent to the saved mobile number.

II Ranajoy Mallik, Amlan Ranajoy Mallik, Amlan Protim Hazarika and Rajib Bandyopadhyay - "Development of an Android Application for viewing Covid-19 Containment zone and Monitoring Violators Who are Trespassing into it using Firebase and Geofencing". The application provides an efficient way of showing the identified covid-19 containment zones to the users in a Google map. It sends separate notification alerts to the user on entering. The application can be further used for many purposes like maritime and forest safety to prevent users from entering restricted areas.

III Sagar Gore, Nitesh Sonawane, Sayali Pawar, Mrunal Nerkar - "An Android based mobile framework for student alert notification".

An alert notification as service. They have been work in the field with either concentrate online website run using the browser. They have been application which focus on android apps. But this system focused on both android user and non-android user. This became a timeconsuming process to open and check notification. In the survey E-notice board but they have drawback again and again to see noticed it has no alarm system. So, we design this system to overcome the problem in e-notice board. Our System first gives notification to Student's phones.

IV Harsheta Pandita, Naveen kumar gondhi - "Survey of sentiment analysis-based Ecommerce in Alert system." Electronic commerce lately has been an easy place for individuals to purchase and consume. People have become keener to display the different products. The emerging social platforms have also played a crucial role in contributing the alerting system.

V Kharabela Rout, Sonalimayee sahu - "Exploring factors influencing the user's intention to use Aarogya Setu contact Tracing Mobile Health Application during COVID Pandemic (October 2022)".

Perceived usefulness of Aarogya Setu m-health app will have a significant impact on intention to use Aarogya Setu m-health app, which helps to understand

the intention to use Aarogya Setu app during pandemic. We proposed four factors influence the intention to use Aarogya Setu m-health app and conceptually defined each factor for Aarogya Setu m-health app context. This study will provide a theoretical understanding for contact tracing and m-health apps for future studies

2.1 EXISTING PROBLEM

We have conducted a brief survey on the existing apps published in Google playstore which are related to Covid-19. Efforts have been made to include most of the apps in the survey, which includes the name of the apps, the description of the apps given in Google Playstore by their developers and our comments on the apps after using them.

- **Aarogya setu -** Aarogya Setu is a mobile application developed by the Government of India to connect essential health services with the people of India in our combined fight against COVID-19.
- **Firebases and Geofencing-** The android application source the location of the containment zone to the users. It also notifies the user when he or she trespasses the boundary of a containment zone or stays in the containment zones.

There are several apps developed in the country to fight and contain COVID-19. Most of the states of our country have their own apps with specific features and functionality to help their citizens to stop COVID-19 spread, get medical assistance during a crisis, create awareness, and understand safety precautions. The study also shows that there are a limited number of apps which show the COVID-19 containment zones in the country or state and out of these none has the functionality of notifying and alerting the user when they have entered a containment zone. Therefore, no app in the Google Playstore is comparable with our proposed application because the idea behind the development of the proposed app is different. This highlights the novelty of the proposed app.

The Android application shows the location of the containment zones to the users. It also notifies the user when he or she trespasses the boundary of a containment zone or stays in the containment zones . All these functionalities are achieved by the help of Firebase and Geofencing tools from Google.

2.2 References

Aarogya Setu is an Indian COVID-19 "contact tracing, syndromic mapping and self-assessment" digital service, primarily a mobile app, developed by the National Informatics Centre under the Ministry of Electronics and Information Technology. The app reached more than 100 million installs in 40 days.

Your connection to this site is secure. **Link-** https://www.aarogyasetu.gov.in/

2.3 Problem statement Definition

- **I AM -** Contributor/ Developer
- **I AM TRYING TO -** Detect the containment zone in the world in a short duration time .And convey the alert message to the people.
- **BUT** – People may considers this type of message as fake and bother this type of message.
- **BECAUSE-** Who spread the rumors in the society within in a seconds. Where every one share the fake alert message to the others in the society.
- **WHICH MAKES ME FEEL-** Now a day Containment zone is increased, so the people get ready to awareness in the society. My project help to get rid of the problems.

3. IDEATION & PROPOSED SOLUTION

PROPOSED WORK : Containment zones in Kolkata

The latitude and longitudes of the geofencing area and a radius to determine the boundary is required for creating each geofences. The locations of the containment zones along with the user's current location are shown using Google maps in the Android

application. For testing the application, the GPS (Global Positioning System) signal of the android device has been mocked and set inside a confinement zone.

The developed android application further extracts the IMEI Number of the trespasser in the containment zones and uploads it in the online database. The identified containment zones chosen for the testing of the application were visited one by one. Shows the various containment zones identified for conducting the test, the date, time of entry and exit, time of receiving the notification alerts upon entering and exiting the containment zone. The notifications given to the user according to the triggering event upon entering or exiting in the containment zones are shown in One IMEI Number among the various IMEI Numbers of the trespassers in the containment zones which is extracted by the android application and updated in the online database in real time. It is highlighted that the application sends notification alerts within 30 seconds on entering and exiting the containment zones respectively . Tests have been carried out in various containment zones across West Bengal for the validation of the Android application. A list of ten containment zones across West Bengal with their corresponding latitude, longitude and radius for creating boundaries by every geofence.

3.1 EMPATHY MAP CANVAS :

- **SAYS** – 1. I Want To Be Able To More Quickly
  2. Interaction With Them Members
  3. I Was Expecting Something Different.
- **THINKS** -1. Is This Really Worth It
  2. I Hope Make The Right Choice
  3. Doesn’t Have Time For Analysis The Project
- **DOES** – 1. Collective more information.
  2. Checks the website.
  3. Compare more than other application.
- **FEELS** – 1. I Feel fear about project and also exicted.
  2. I feel focused all kind of situation.
  3. Happy to have good quality software.

REFER: https://github.com/IBM-EPBL/IBM-Project-26284-1660024021/blob/main/Project%20Design%20and%20Planning/Ideation%20Phase/Empathy%20Map.pdf

3.2 IDEATION AND BRAINSTORMING:

Team lead – More flexibility , Give valuable code , Expediting Laboratory reports, Arrange for Referral , Verify Requirement for home isolation.

Team Member 1: User friendly, Set the Notification for location, Personal protect, Daily Mointoring the affected person, Establish clear entry and exit point.

Team Member 2 : Well Defined, Seek the help from medical officers, Keep a track of samples from your area sent for testing , trust and security, No checked influx of population.

Team member 3: List and Identify the persons, Collect data and collected data from the field staff, Benefits for future generation, People migrating to be recorded and followed.

Refer: https://github.com/IBM-EPBL/IBM-Project-26284-1660024021/blob/main/Project%20Design%20and%20Planning/Ideation%20Phase/Brainstrom%20Ideas%20%26%20ideation%20phase.pdf.

3.3 PROPOSED SOLUTION:

PROBLEM STATEMENT – Application also notifies the users if they have entered a containment zone.

- **IDEA AND SOLUTION DESCRIPTION** - Isolation is the best solution for. A tool to Containment zone alerting location help your determine if you need to isolated or take other steps to prevent spreading.

- **NOVELTY / UNIQUENESS** - Open source application uniqueness. Helpful for future generations. Helpful for future generations. A alert take message was issued in time for people to protective action.
- **CUSTOMER SATISFACTION** – Much less attention has however been devoted to the sort of services that should be provided to minimize the social impact. Customer satisfaction has been one of the top tools for successful application.

- **APPLICATION MODEL –** These are frameworks that allows developing tool native applicants which have access to all the native features of for Android but with the same code base.
- **SCALABILITY OF THE SOLUTION-** Notification should always contribute to the overll user experiences. Improve productivity. Significant cost.

3.4 PROBLEM SOLUTION FIT :

1 Cusomer segment(s) - Product user is our customer.

2 Jobs to be done/ Problems – Protect the people from the containment zone.

3 Trigger- In automated system, presence of people were entered into the containment zone. Then the app identified location and will notification then will in turn triggers the containment zone.

4 Emotion Before/After- Product user feel when they face a problem or error?

1 Insecure	2 Network error
3 Data lose	4 Connectivity issue

5 Available solution- Install and register the application. Always "ON" your location in your mobile phone. Everyone noted the message do not refuse alert message.

6 Customer Contraints – What constraints prevent your customer from taking action or limit their choice?

Solution: Available devices , Budget , Network connection.

7 Channels of Behaviour – OFFLINE : Establish a emergency alert and maintain our equipment and facility**. ONLINE:** In online mode, incase enter the containment zone it is quickly inform and alert to user.

8 Your Solution – Identified the containment zone and alert the people through the message in your mobile phone from anywhere and anyplace.

4 REQUIREMENT ANALYSIS :

4.1 Functional Requirements:

Following are the functional requirements of the proposed solution.

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	**User Registration**	It can be registered by valid email id or phone number.
FR-2	**User Confirmation**	Verification code can received by registering email id or phone number
FR-3	**Alert message via notification**	By user access of location will entered in containment area the notification are send by GPS tracking system and push the grids through mail id
FR-4	**Show Infected zones**	Marketed by GEO fencing.
FR-5	**Track alternative routes**	By Google map API or Google dependencies.

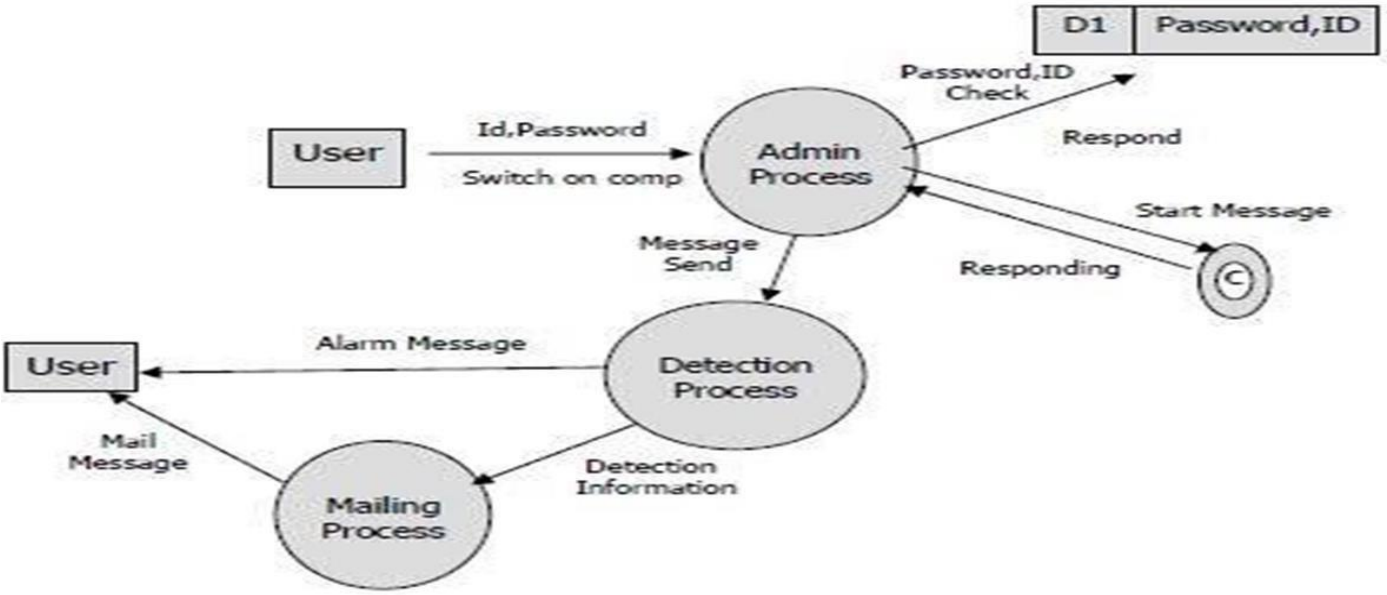
4.2 Non-functional Requirements:

Following are the non-functional requirements of the proposed solution.

FR No.	Non-Functional Requirement	Description
NFR-1	**Usability**	To protect the people do not enter the containment zone.
NFR-2	**Security**	It is highly securable data to end-to-end encrypted of the user information.
NFR-3	**Reliability**	The information of user is highly secured and app will protect the containment zone, to alert via message.
NFR-4	**Performance**	It is very effective performance in alerting people within one second of entering a containment zone.
NFR-5	**Availability**	In this containment zone app is available in anywhere and anyplace.
NFR-6	**Scalability**	The scalability of containment zone application will be good and effective.

5 PROJECT DESIGN:

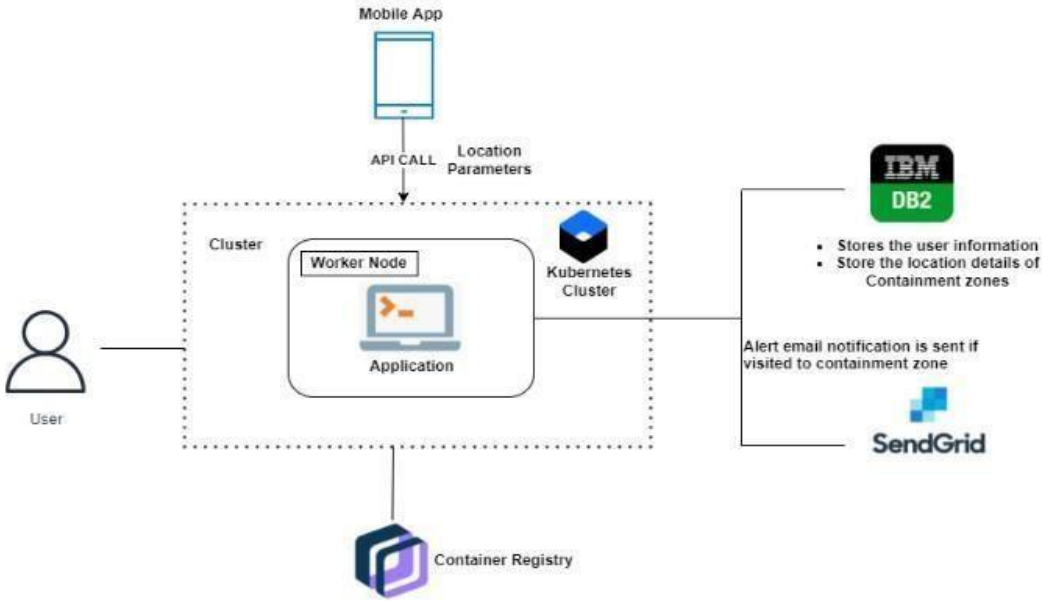
5.1 DATA FLOW DIAGRAM:



5.2 SOLUTION AND TECHNICAL ARCHITECTURE:

SOLUTION REQUIREMENT: The project aims at building an application that provides information about the containment zones of a particular region by continuously monitoring an individual's location. The location of the individual must be stored in the Database. Alerts are sent using the notification service.

TECHNICAL ARCHITECTION:



5.3 USER STORIES

The app should have user registration and login. After the user logged into the app it will track the user location and update the database with the current location. If the user is visiting the containment zone he will get an alert notification.

6. PROJECT PLANNING & SCHEDULING:

TITLE	DESCRIPTION	DATE
Literature Survey on TheSelected Project andInformation Gathering	A Literature Survey is a compilation summary of research done previously in the given topic. Literature survey can be taken from books, research paper online or from any source.	3rd September 2022
Prepare Empathy Map	Empathy Map provides easy way for team to initialize and better understand the target users.	10th September 2022
Ideation-Brainstorming	Brainstorming is a activity that will help to generate more innovative ideas. The process of coming up with new ideas.	17th September 2022
Define Problem Statement	A Problem Statement is a concise description of the problem or issue to be addressed or conditions to be improved. The problem statement identifies the gap between the problem state and desired state of the process.	18th September 2022
Problem Solution Fit	The problem solution fit helps us to understand the thoughts of the customer about certain job, pain, gain like behaviors and emotions.	1st October 2022
Proposed Solution	Proposed solution shows relate the current solution to desired results and describe the benefit that will accrue when the desired result is achieved.	24th September 2022
Solution Architecture	Solution Architecture is helps to ensure that a new system will fit the existing enterprise environment. It helps to understand that features to complete our project.	1st october 2022

Customer Journey	The customer journey map is a visual overview of how customer interact with and experience our website, services.	8th October 2022
Functional Requirement	Here functional and nonfunctional requirements are explained. It has specific features like usability, security, reliability, performance, availability and scalability.	15th October 2022
Data Flow Diagrams	Data Flow Diagram is a graphical representation of a Flow of data through an information system.	15th October 2022
Technology Architecture	Technology Architecture provides an overview of the various components of the system and how they work together. It is used for better decision making and understanding.	15th October 2022
Prepare Milestone & ActivityList	It helps us to understand andevaluate our own progress and accuracy so far.	22nd October 2022
Spring Delivery Plan	A project sprint in scrum is a short period of time where in a development team works to completespecific tasks, milestones or deliverables.	25th October 2022

6.1 SPRINT PLANNING AND ESTIMATION:

6.2 SPRINT DELIVERY SCHEDULE:

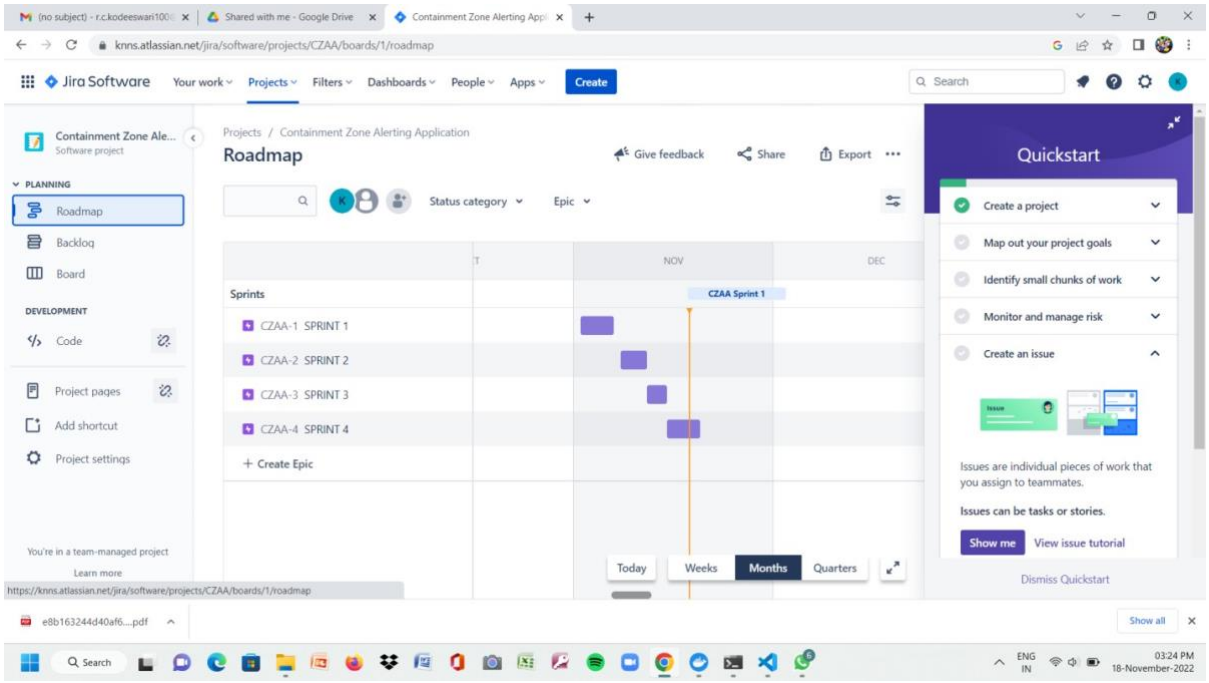
Sprint	Functional Requirement (Epic)	User Story Numer	User Story / Task	Story Points	Priority	Team Members
Sprint1	Registration	USN-1	User: I can register for the applicationby entering my email, password and verifying password.	3	High	Kodeeswari
		USN-2	User: I will receive a confirmationemail once I have registered for the application.	2	High	Nagasowmiya
		USN-3	User: I can register for the applicationthrough Gmail.	5	Medium	Nagulan
		USN-4	Management: I need to register	2	High	Saravanakumar

			myhospitals on the site.			
	Login	USN-5	User: I can log into the applicationby entering my email & password	3	High	Kodeeswari
		USN-6	Management: I need to login into mydashboard with my given hospital id and password.	5	Medium	Nagasowmiya
	Dashboard	USN-7	User: I need to give permission to accessmy Contacts, Location, Storage.	5	High	Nagulan
Sprint	**Functional Requirement (Epic)**	User Story Number	User Story / Task	StoryPoints	Priority	Team Members
Sprint2	**Dashboard**	USN-8	User: I get access to the dashboard which shows a map withcontainment zones	5	High	Saravanakumar
		USN-9	Management: I need to enter the case information of the patient that visitsour hospital.	5	High	Kodeeswari
	Services	USN-10	Admin: I need to provide valid information about the pandemic out there.	5	High	Nagasowmiya
Sprint3	**Dashboard**	USN-11	Management: I need to store all thepatient information on the cloud.	5	High	Nagulan
	Services	USN-12	Admin: I need to provide medical advice through a chatbot.	5	Medium	Saravanakumar
		USN-13	Admin: need to provide Medicalrecommendations by collaboratingwith top hospitals.	5	Low	Kodeeswari
		USN-14	Admin: I need to provide preventive measures when they travel through it.	5	High	Nagasowmiya
Sprint4	**Registration**	USN-15	User: I can register for the application through Facebook.	2	Low	Nagulan
		USN-16	User: I can register for the applicationthrough Twitter.	2	Low	Saravanakumar
	Services	USN-17	Admin: I need to alert the user whenthey enter pandemic zones.	3	Medium	Kodeeswari
		USN-18	Admin: I need to provide special servicesfor premium users by giving services like monitoring health	3	Low	Nagasowmiya

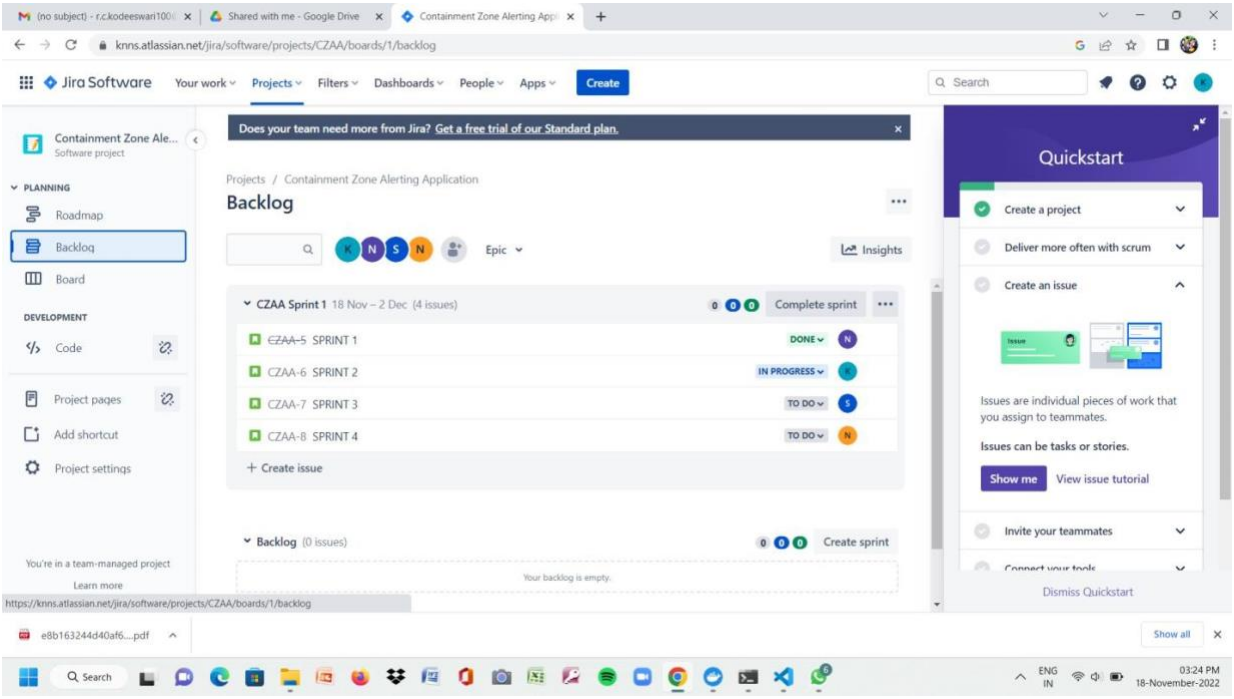
			bytheir smart bands.			
	Data Collection	USN-19	Admin: I need to store all the userinformation on the cloud	5	Medium	Nagulan
		USN-20	Admin: I need to collect the recent list of diseases in the world.	5	Low	Saravanakumar

6.3 REPORT FROM JIRA:

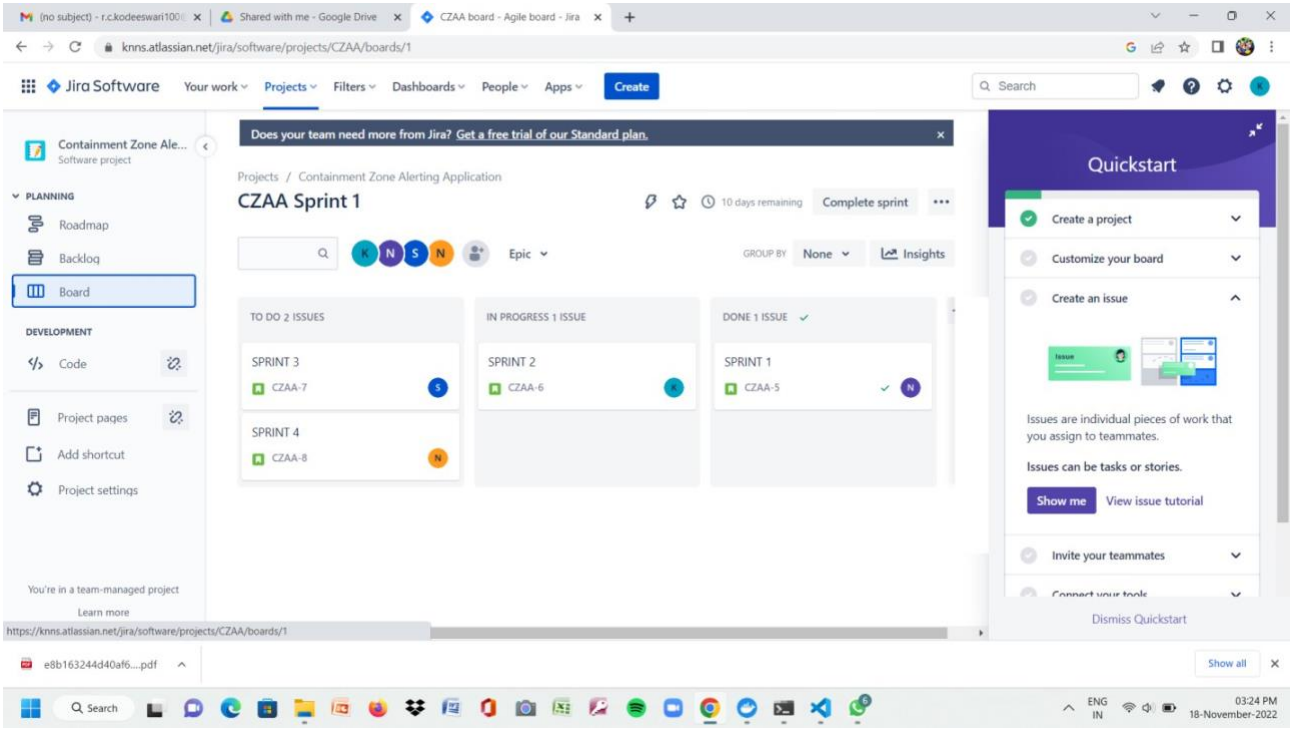
ROAD MAP:



BACKLOG:



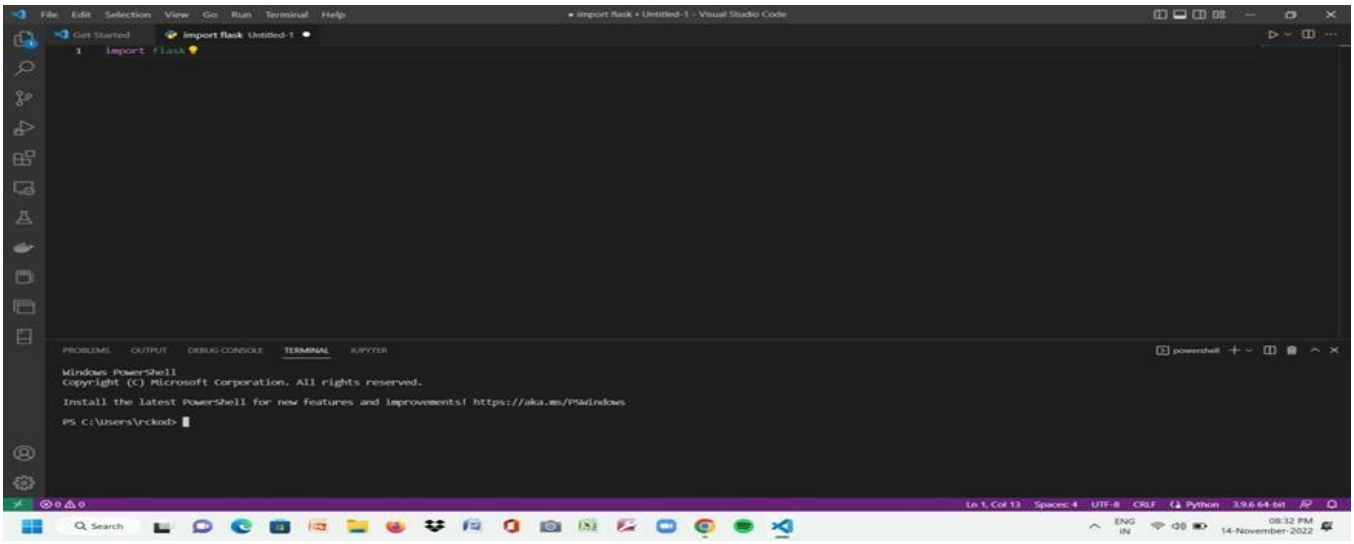
BOARD:

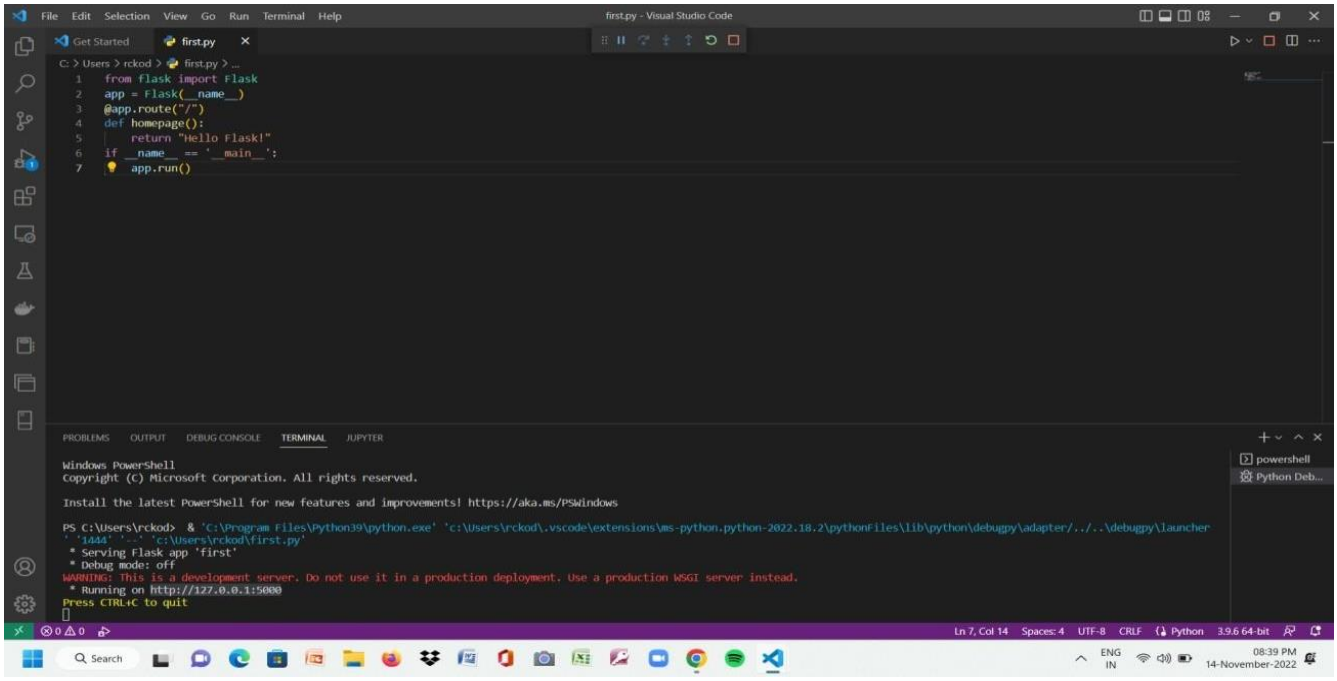


7. CODING AND SOLUTIONING :

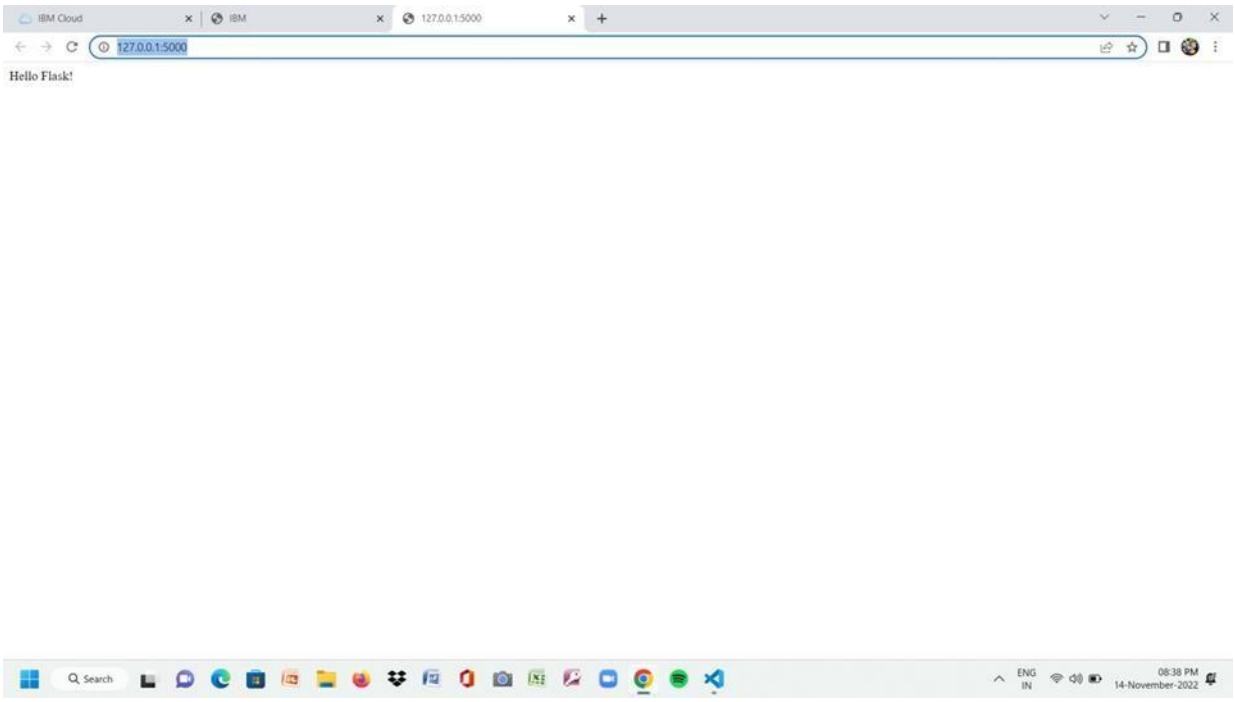
CREATE API FLASK :

```
from flask import Flask
app = Flask(_name_)
@app.route("/")
def homepage():
return "Hello Flask!"
if _name=='main_':
app.run()
```





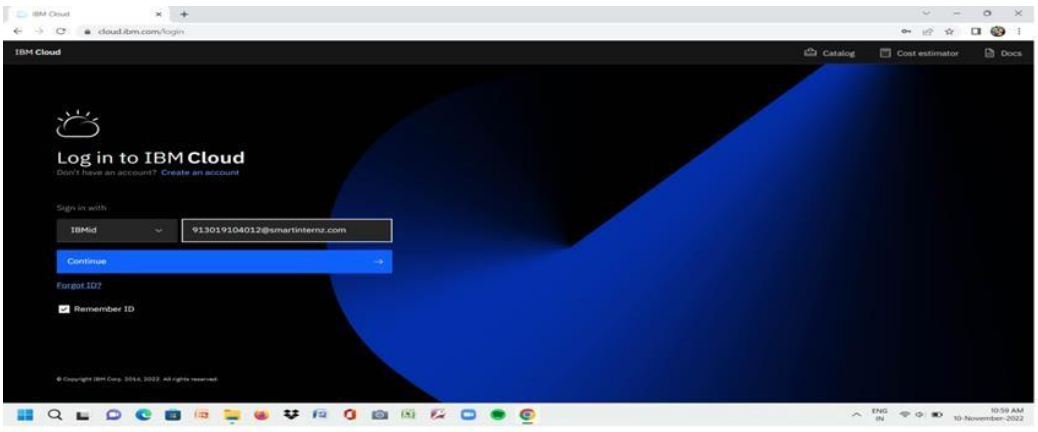
OUTPUT:



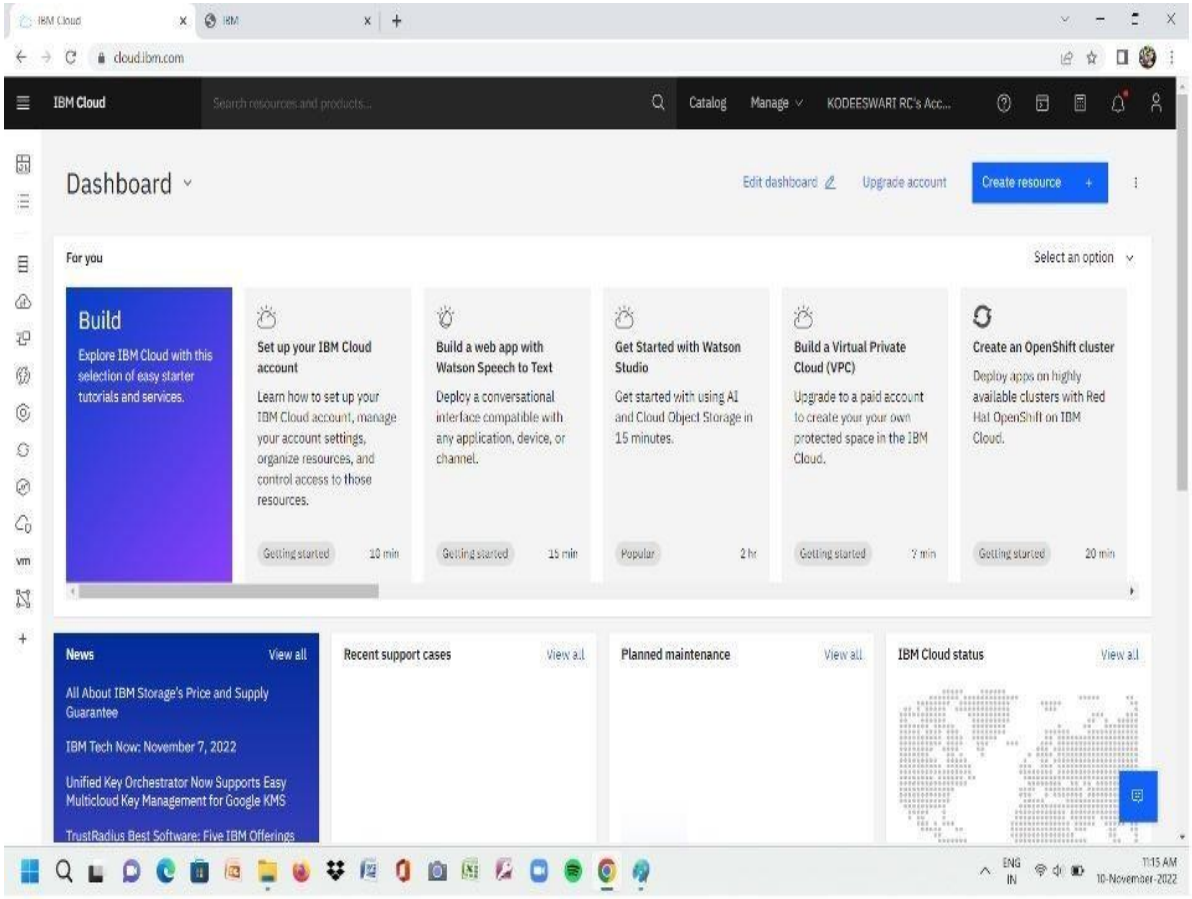
CREATE IBM CLOUD ACCOUNT:

STEP—1 https://cloud.ibm.com/login

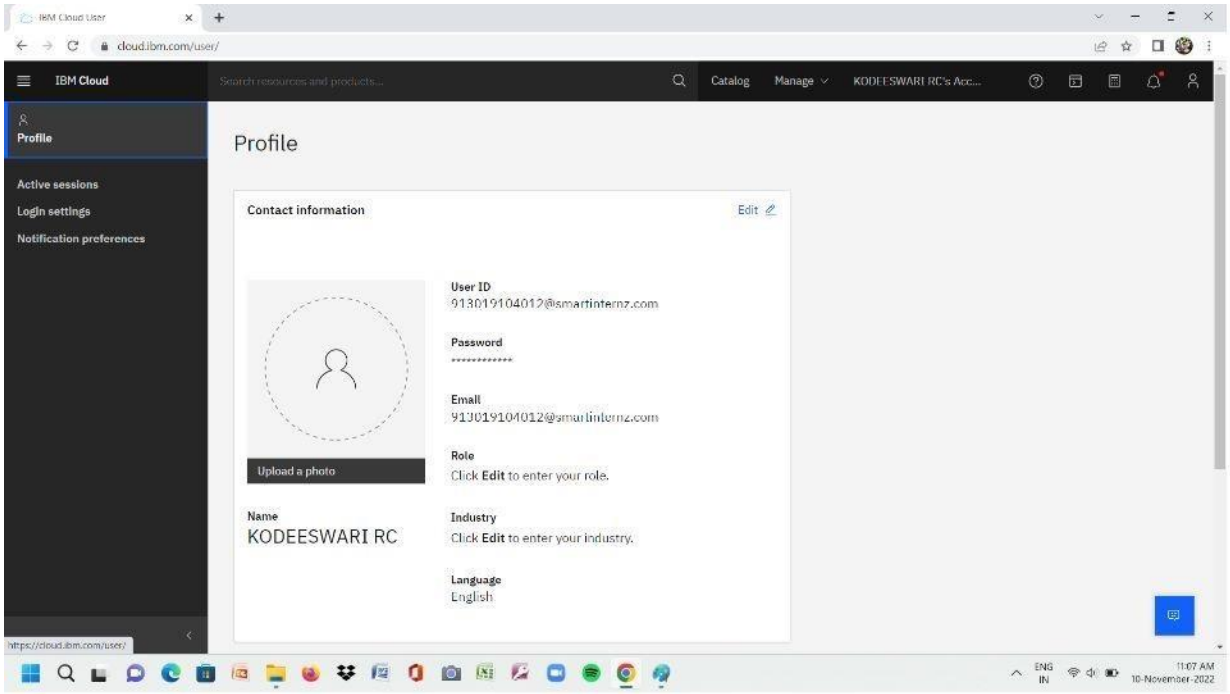
1. LOGIN TO IBM



2. DASH BOARD

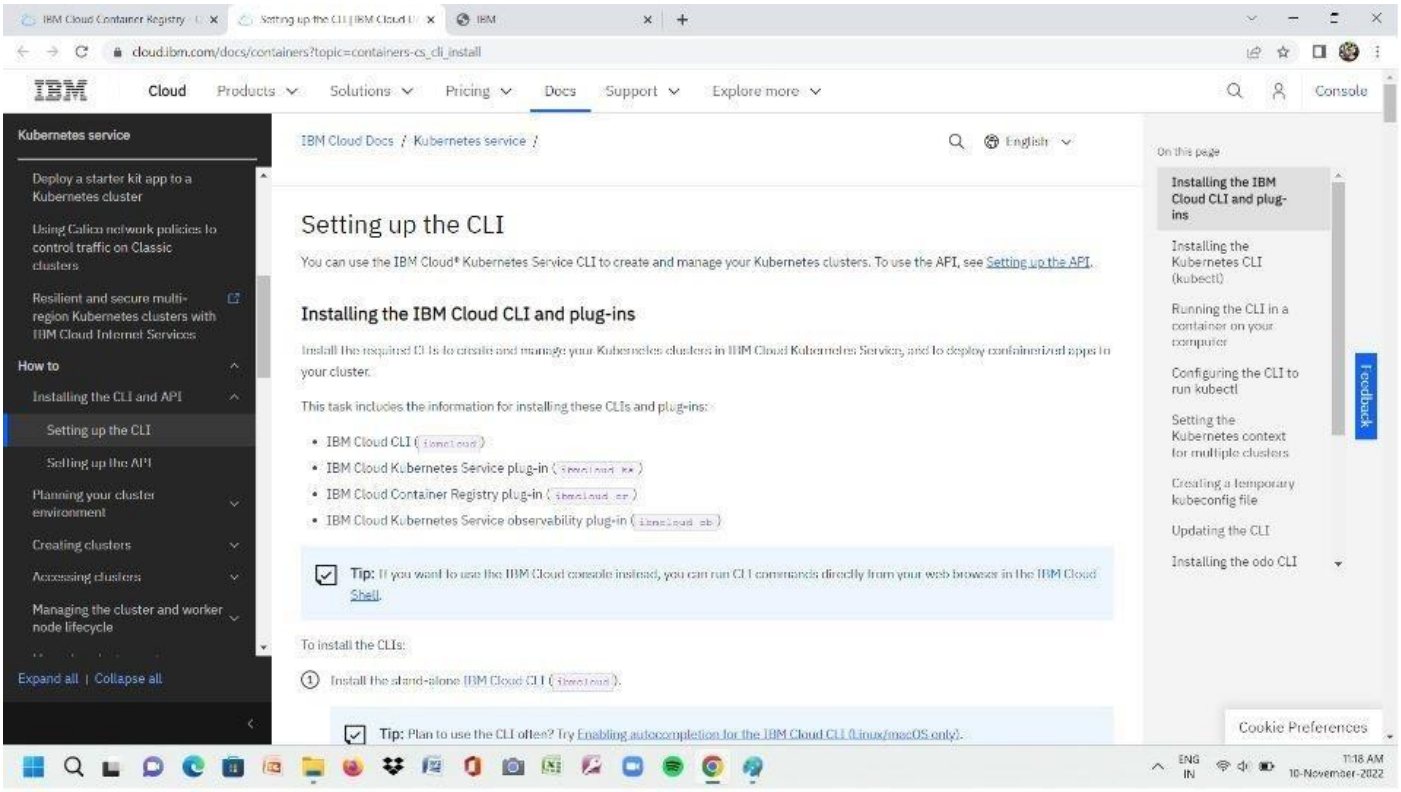


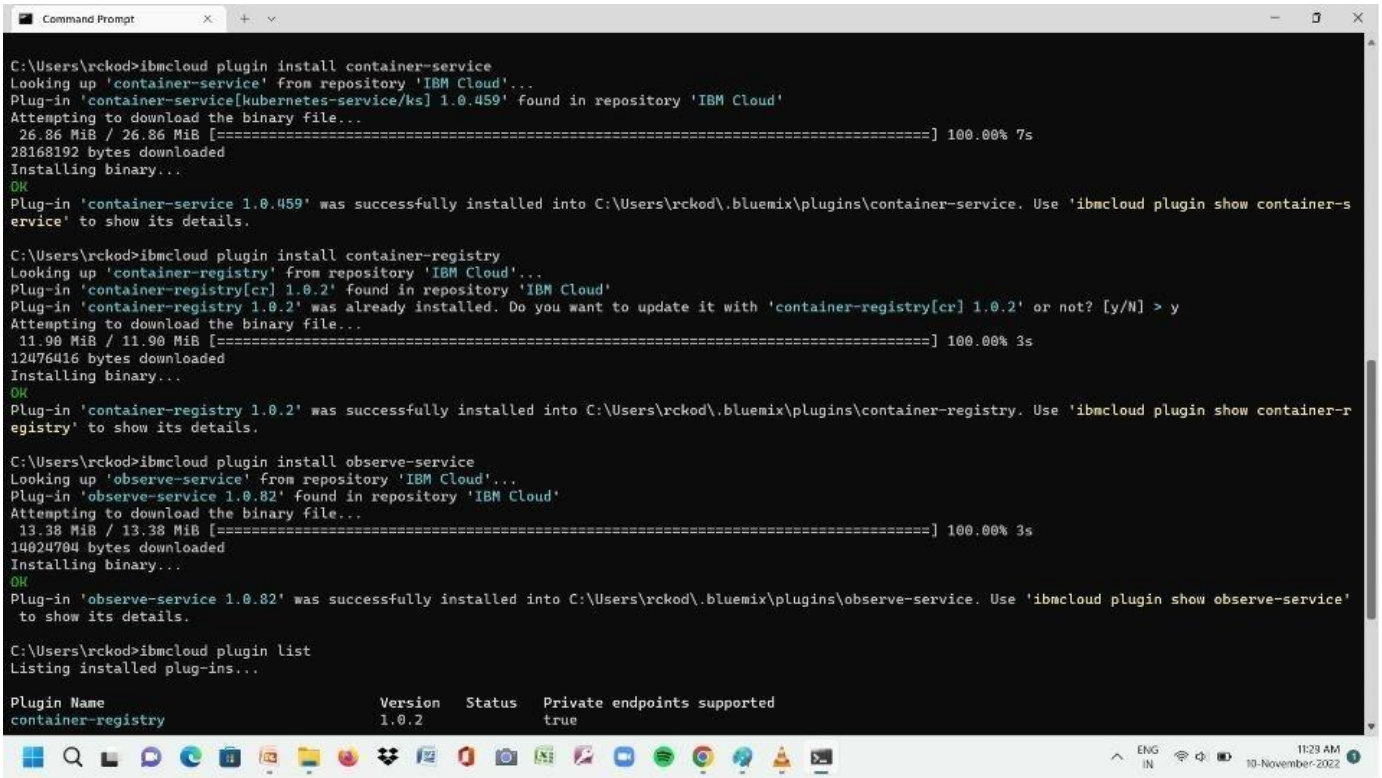
3. IBM PROFILE:

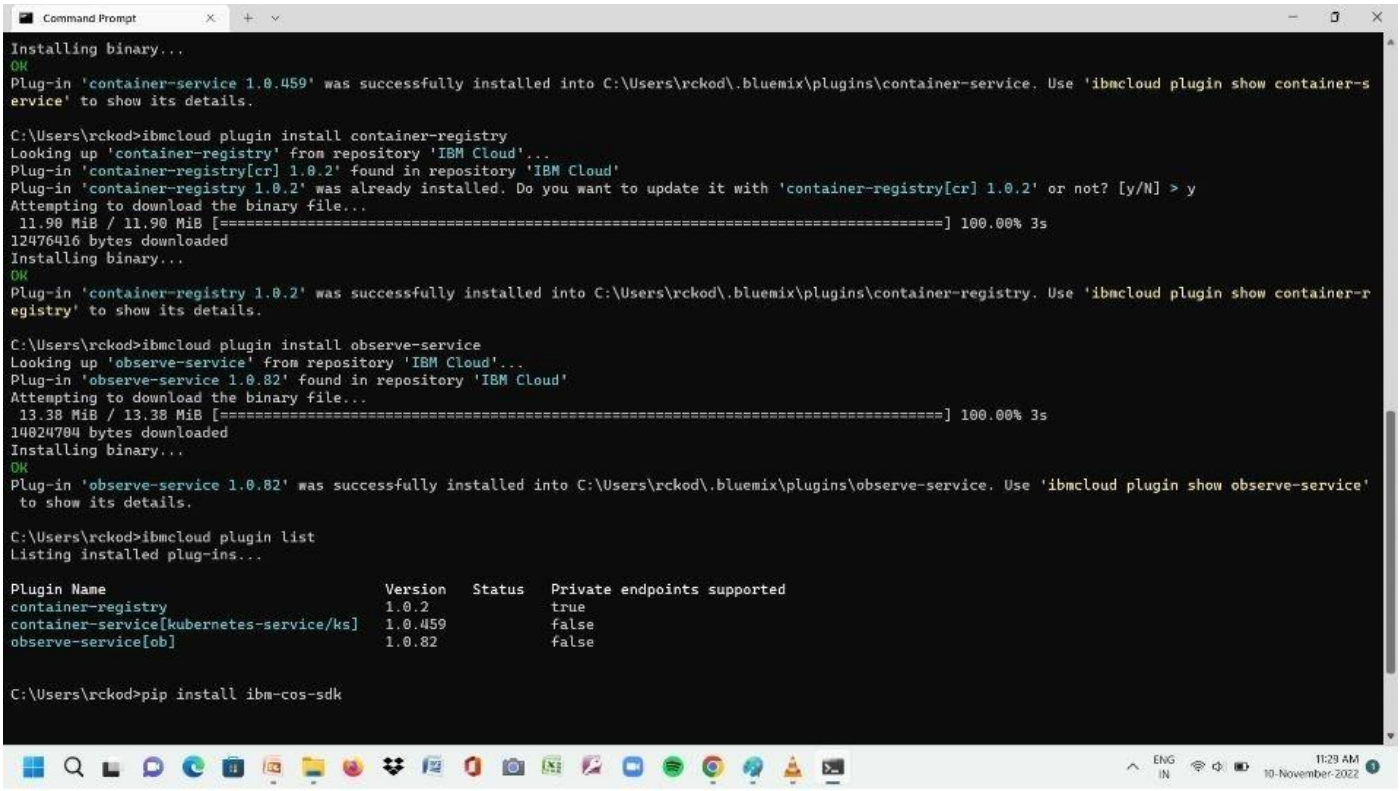


INSTALL IBM CLOUD CLI:

Setting up the CLI:

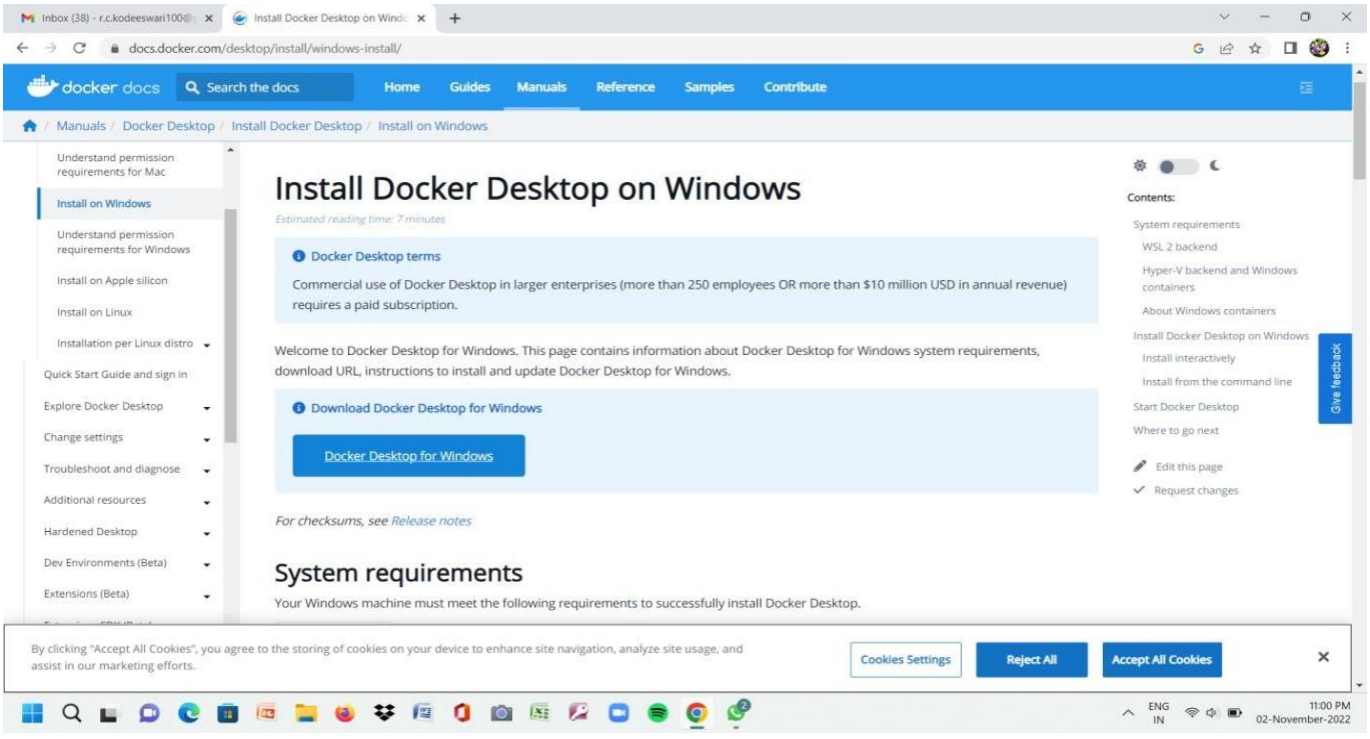


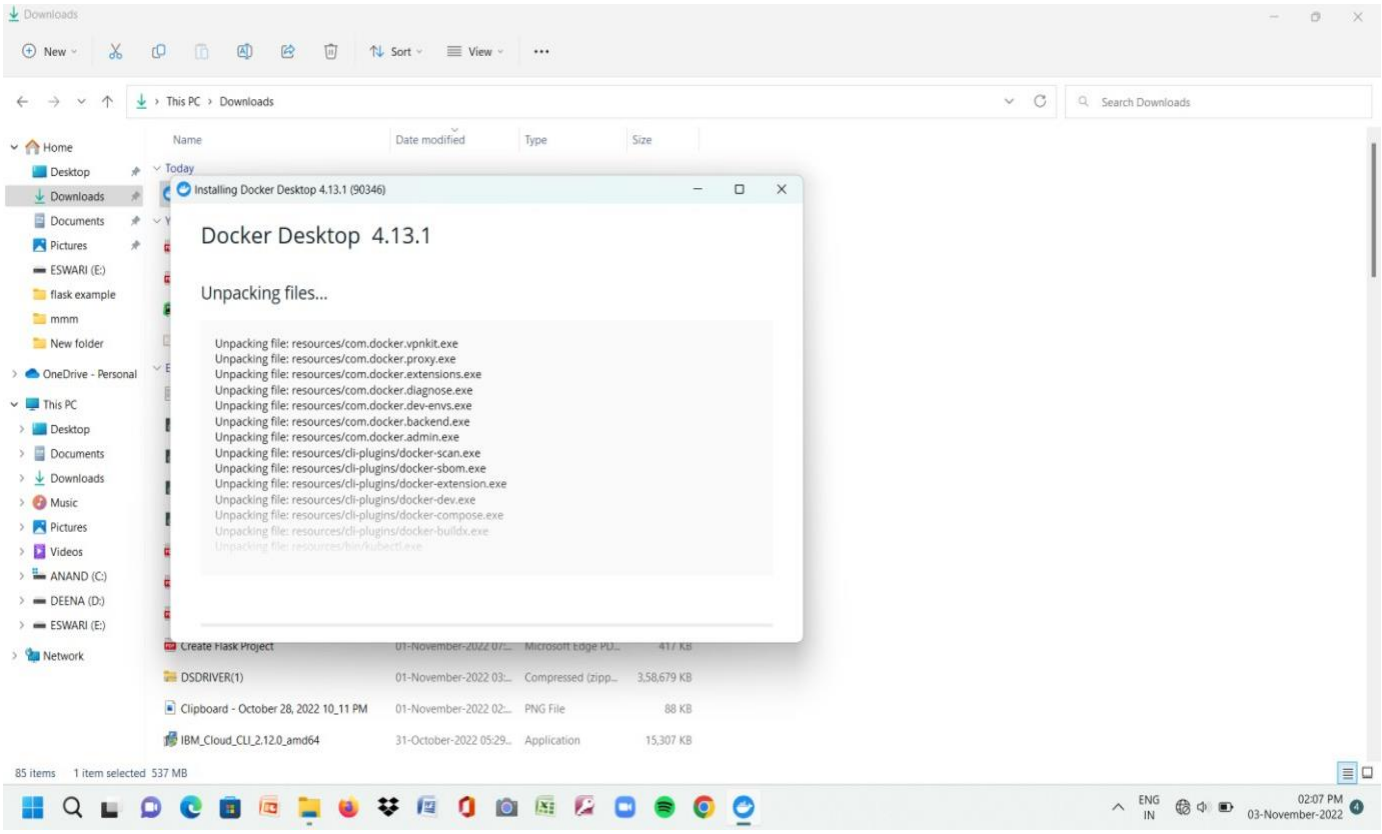


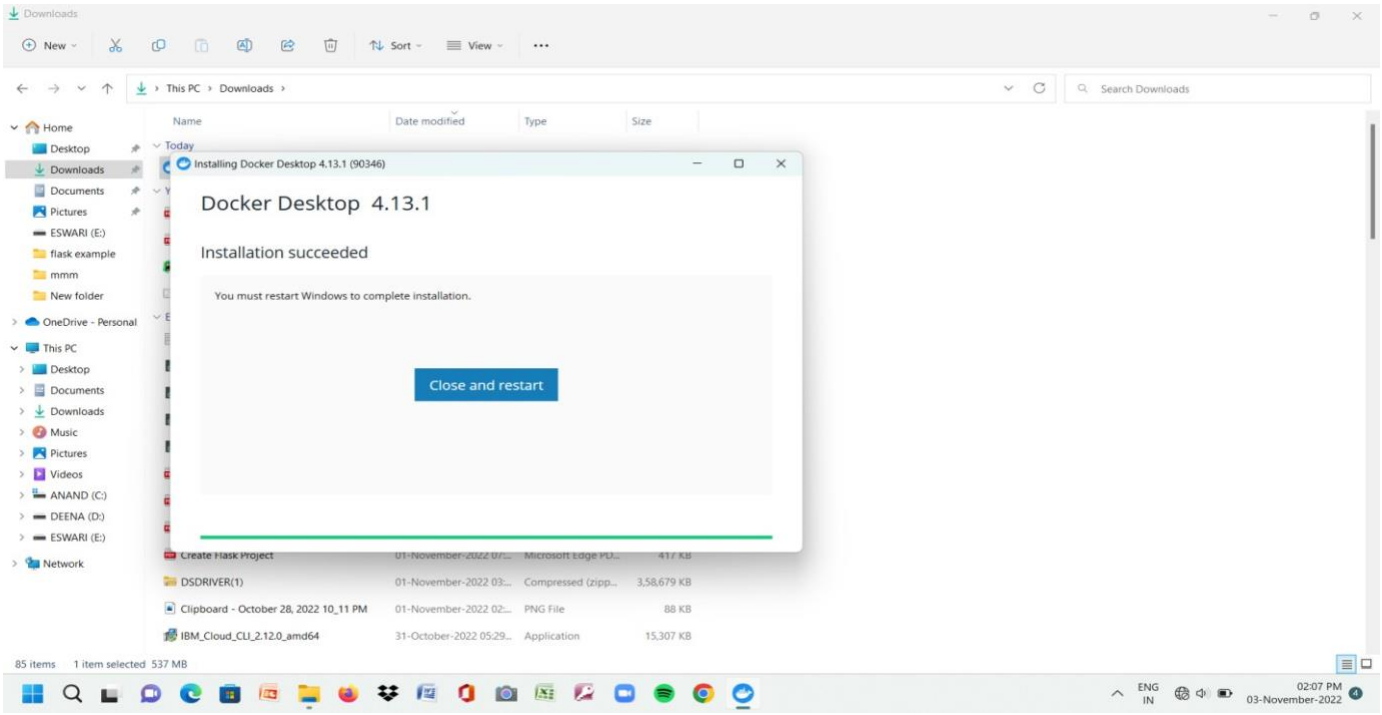


IBM cloud CLI Install Successfully……,

CREATE DOCKER INSTALL :



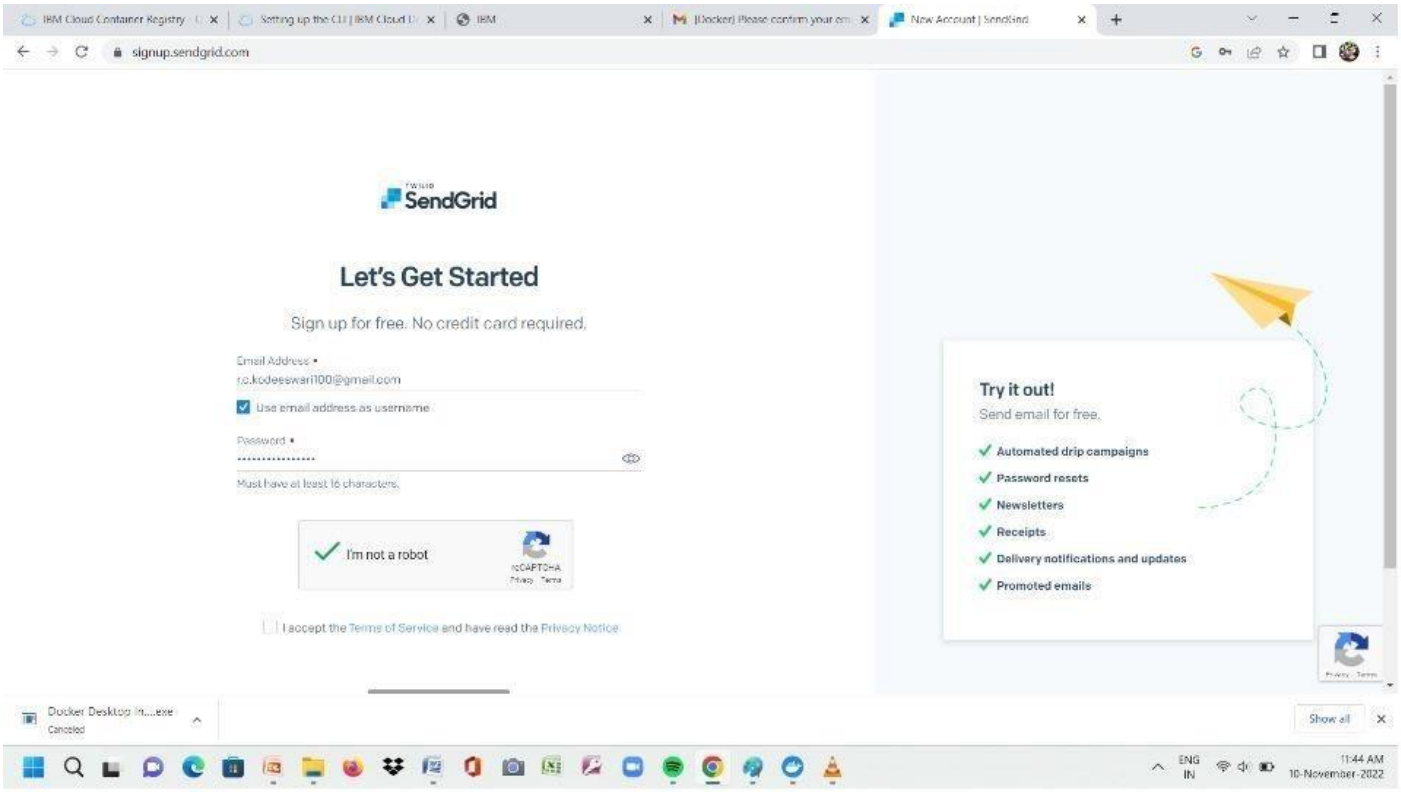




Docker install successfully…….,

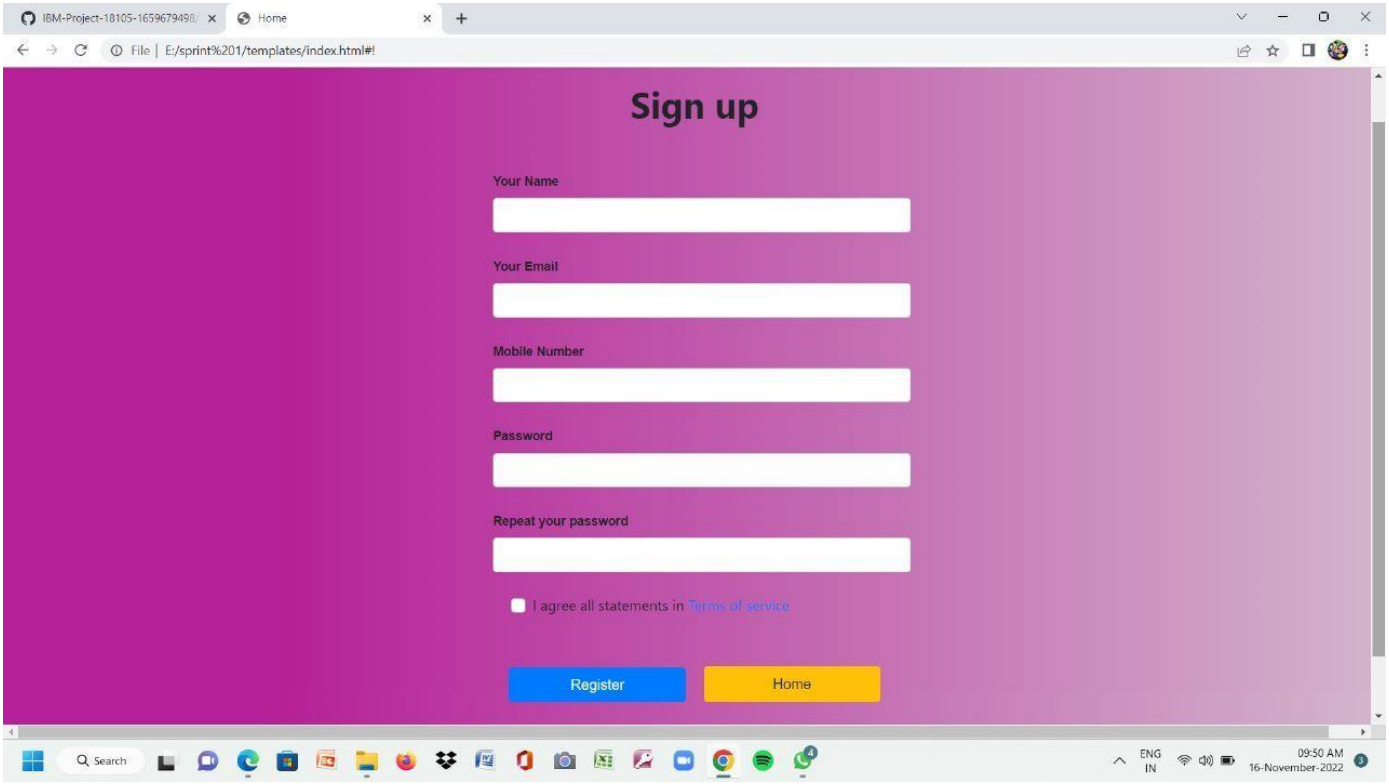
CREATE AN SENDGRID ACCOUNT:

Let’s Start….

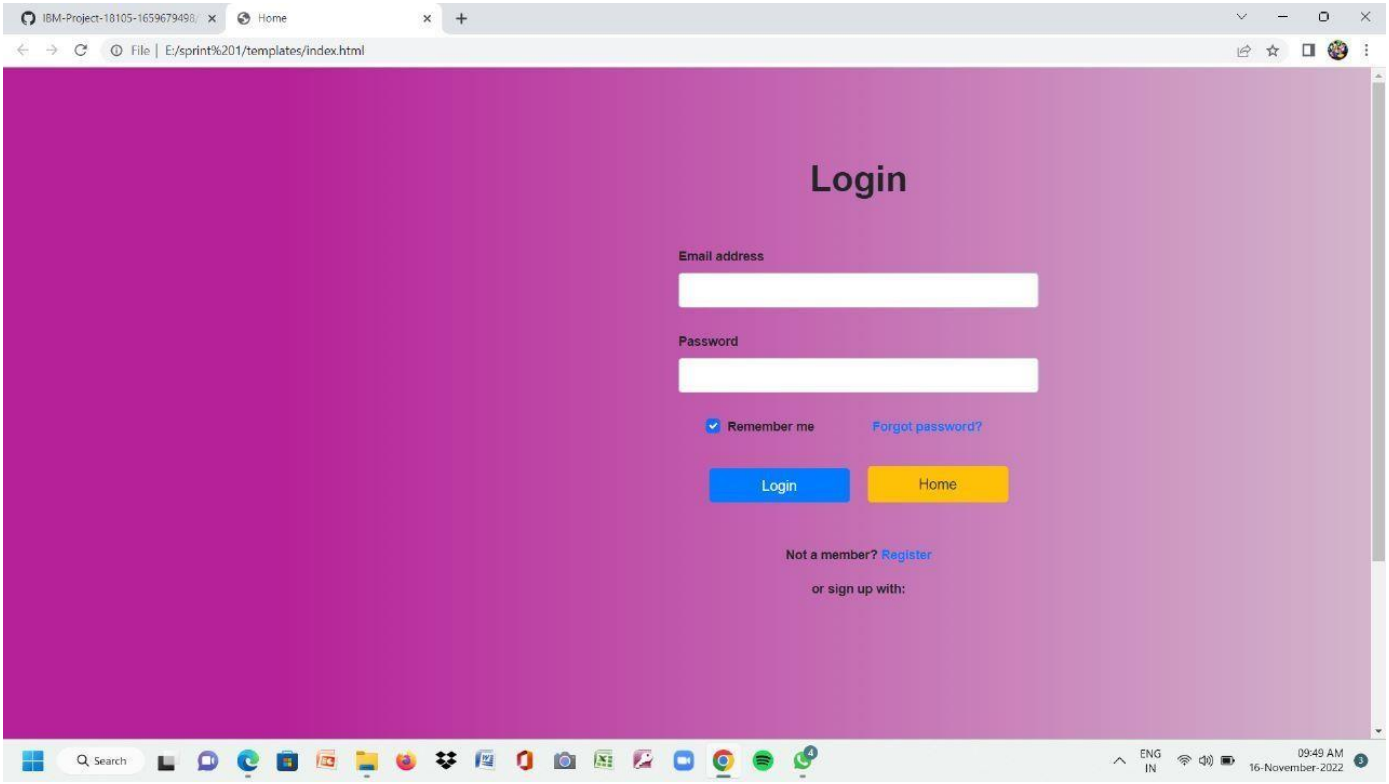


CREATE UI TO INTERACT WITH APP:

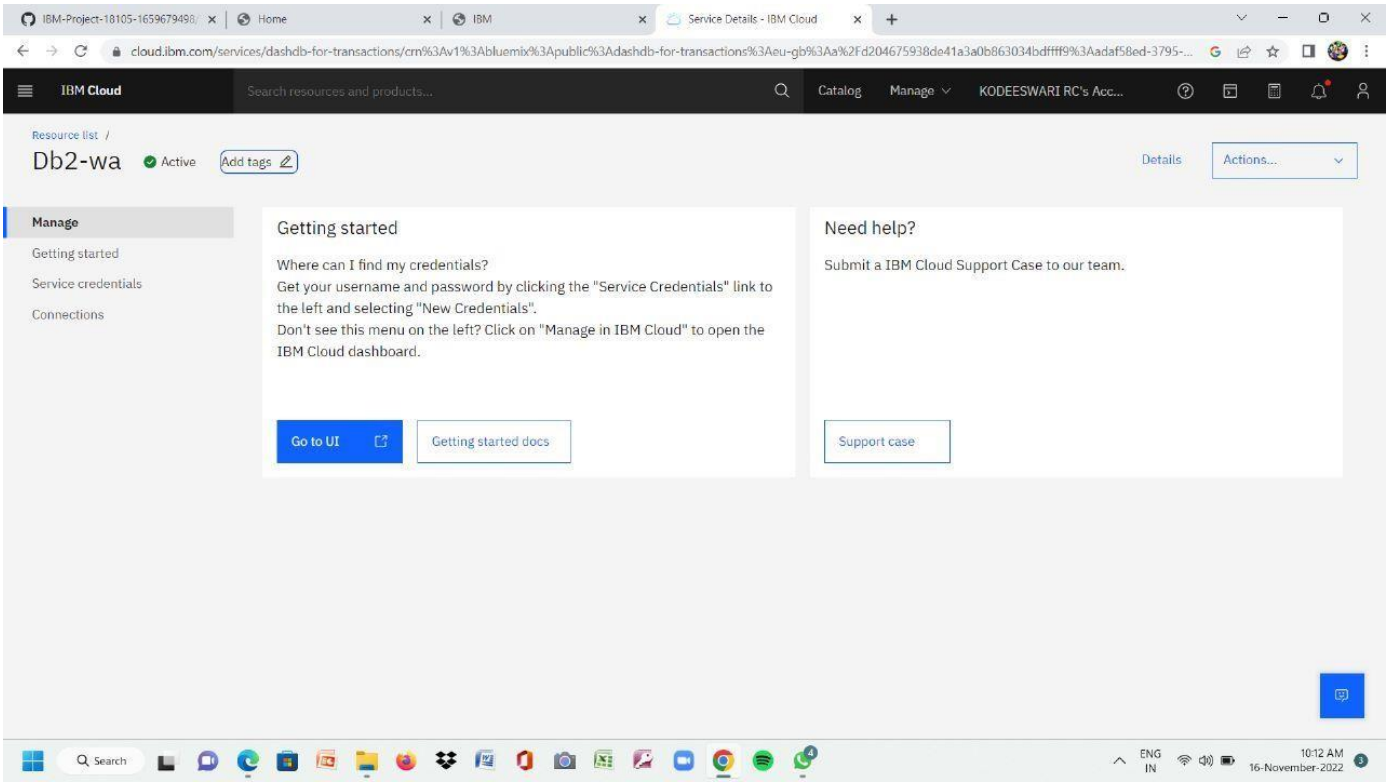
REGISTER:



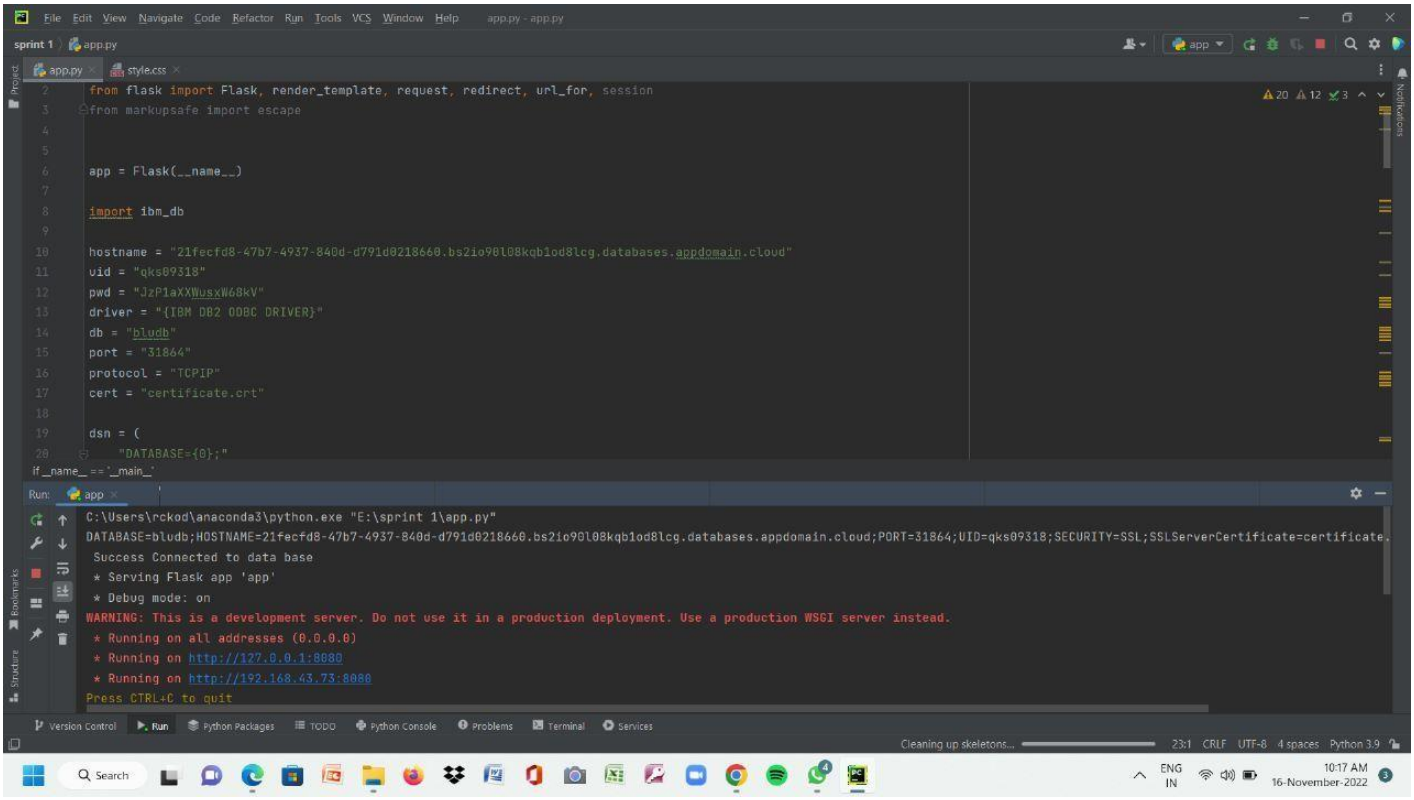
LOGIN PAGE:



CREATE IBM DB2



```
import  ibm_db
from turtle import st
from flask import Flask, render_template, request, redirect, url_for, session
from markupsafe import escape
hostname = "21fecfd8-47b7-4937-840d-
d791d0218660.bs2io90l08kqb1od8lcg.databases.appdomain.cloud"
uid = "qks09318"
pwd = "JzP1aXXWusxW68kV"
driver = "{IBM DB2 ODBC DRIVER}"
db = "bludb"
port = "31864"
protocol = "TCPIP"
cert = "certificate.crt"
dsn=(
    "DATABASE={0};"
    "HOSTNAME={1};"
    "PORT={2};"
    "UID={3};"
    "SECURITY=SSL;"
    "SSLServerCertificate={4};"
    "PWD={5};"
    ).format(db,hostname,port,uid,cert,pwd)
print(dsn)
try:
   db2=ibm_db.connect(dsn,"","")
   print("Connected to data base")
except:
   print("Unable to connect",ibm_db.conn_errormsg())
```



CREATE API IN FLASK:

create a ui with flask python code
from turtle import st

from flask import Flask, render_template, request, redirect, url_for, session

from markupsafe import escape

app = Flask(_name_)

import ibm_db

hostname = "21fecfd8-47b7-4937-840d-d791d0218660.bs2io90l08kqb1od8lcg.databases.appdomain.cloud"

uid = "qks09318"

pwd = "JzP1aXXWusxW68kV"

driver = "{IBM DB2 ODBC DRIVER}"

db = "bludb"

port = "31864"

protocol = "TCPIP"

cert = "certificate.crt"

dsn = (

"DATABASE={0};"

"HOSTNAME={1};"

"PORT={2};"

```
    "UID={3};"
    "SECURITY=SSL;"
    "SSLServerCertificate={4};"
    "PWD={5};"
).format(db, hostname, port, uid, cert, pwd)
print(dsn)
try:
    db2 = ibm_db.connect(dsn, "", "")
    print(" Success Connected to data base")
except:
    print("Unable to connect", ibm_db.conn_errormsg())
@app.route('/')
def home():
   return render_template('home.html')
@app.route('/signin')
def signin():
    return render_template('login.html')
@app.route('/signup')
def signup():
    return render_template('signup.html')
@app.route('/logout')
def logout():
    return render_template('home.html')
@app.route('/register', methods=['POST', 'GET'])
def register():
    if request.method == 'POST':
        username = request.form['username']
        email = request.form['email']
        password = request.form['password']
        sql = "SELECT * FROM user WHERE username =?"
        stmt = ibm_db.prepare(db2, sql)
        ibm_db.bind_param(stmt, 1, username)
```

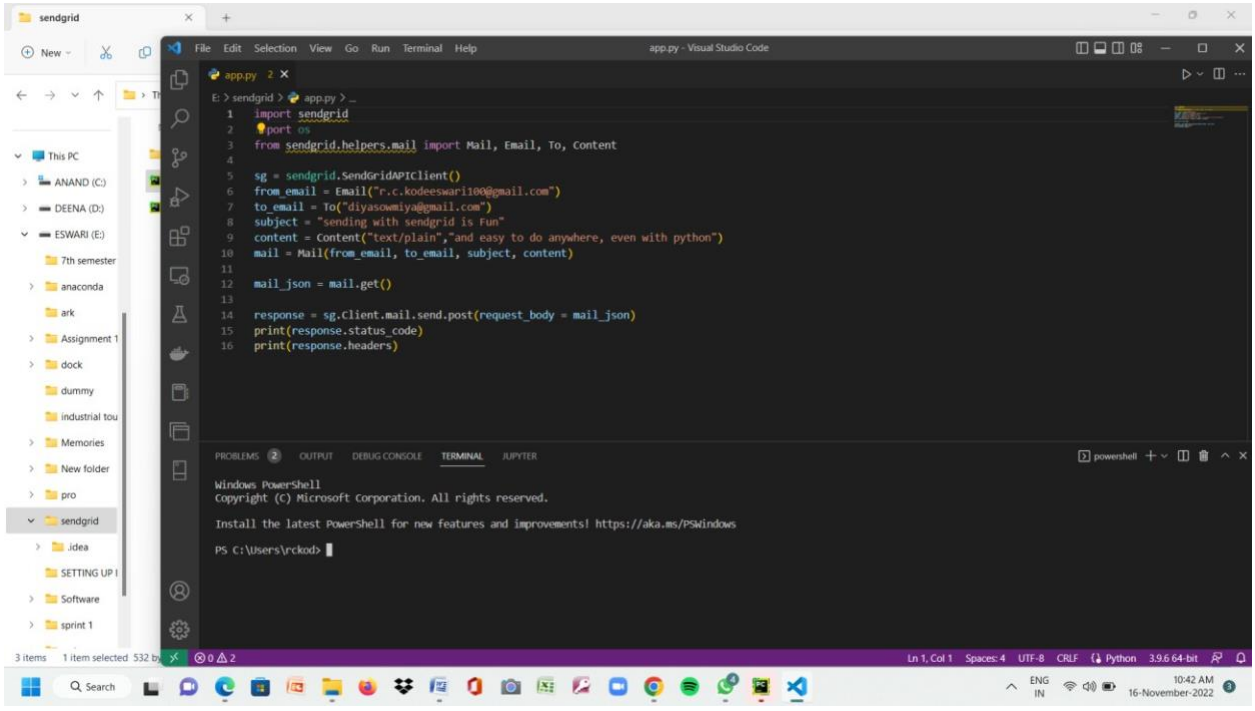
```
        ibm_db.execute(stmt)
        account = ibm_db.fetch_assoc(stmt)

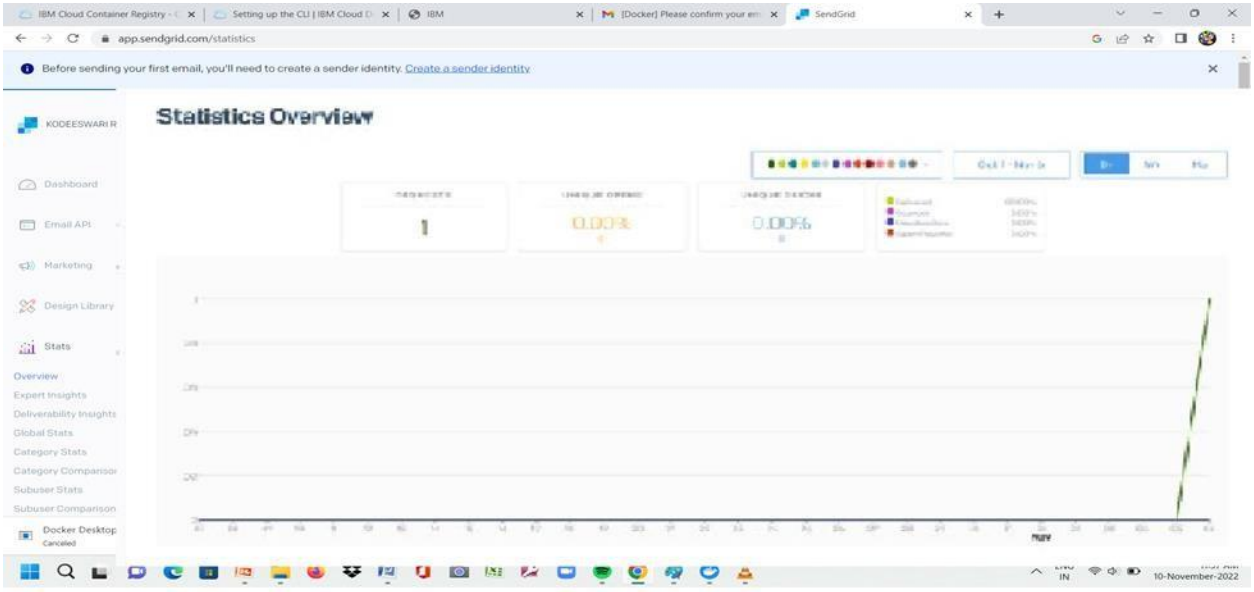

      if account:
            return render_template('logout.html', msg="Username Already Taken")
        else:
            sql = "insert into user(username,email,password) values(?,?,?)"
            prep_stmt = ibm_db.prepare(db2, sql)
            ibm_db.bind_param(prep_stmt, 1, username)
            ibm_db.bind_param(prep_stmt, 2, email)
            ibm_db.bind_param(prep_stmt, 3, password)
            ibm_db.execute(prep_stmt)
            return redirect(url_for('login'))
@app.route('/login', methods=['POST', 'GET'] )
def login():
    if request.method == 'POST':
        username = request.form['username']
        password = request.form['password']
        sql = "select * from user where username=? and password=?"
        stmt = ibm_db.prepare(db2, sql)
        ibm_db.bind_param(stmt, 1, username)
        ibm_db.bind_param(stmt, 2, password)
        ibm_db.execute(stmt)
        dic = ibm_db.fetch_assoc(stmt)
        print(dic)
        if dic:
            return render_template('home.html', msg="WELCOME")
        else:
            msg = "Invalid Username or Password"
            return render_template('login.html', msg=msg)
 elif request.method == 'GET':
        msg = "Invalid Username or Password"
```

```
        return render_template('login.html', msg=msg)
if _name_ == '_main_':
    app.run(debug=True,host='0.0.0.0' ,port="8080")
```

SENDGRID WITH PYTHON:

```
import sendgrid
import os
from sendgrid.helpers.mail import Mail, Email, To, Content
sg = sendgrid.SendGridAPIClient()
from_email = Email("r.c.kodeeswari100@gmail.com")
to_email = To("diyasowmiya@gmail.com")
subject = "sending with sendgrid is Fun"
content = Content("text/plain","and easy to do anywhere, even with python")
mail = Mail(from_email, to_email, subject, content)
mail_json = mail.get()
response = sg.Client.mail.send.post(request_body = mail_json)
print(response.status_code)
print(response.headers)
```





CONTAINERIZE THE APP

```
# Use base UBI image
FROM registry.access.redhat.com/ubi8/python-39:1
WORKDIR /opt/app-root/src
COPY Pipfile* /opt/app-root/src/
USER root
RUN yum -y install --disableplugin=subscription-manager wget \
  && yum --disableplugin=subscription-manager clean all
RUN pip3 install --upgrade pip==21.3.1 \
  && pip3 install --upgrade pipenv==2020.11.15 \
  && pipenv install --dev
# Update python command to point to python3 install
RUN alternatives --set python /usr/bin/python3
ENV FLASK_APP=server/_init_.py
ENV FLASK_DEBUG=true
COPY . /opt/app-root/src
COPY run-dev /bin
RUN chmod 777 /bin/run-dev
```

```
ARG bx_dev_user=root

ARG bx_dev_userid=1000

RUN BX_DEV_USER=$bx_dev_user

RUN BX_DEV_USERID=$bx_dev_userid

RUN if [ "$bx_dev_user" != root ]; then useradd -ms /bin/bash -u $bx_dev_userid $bx_dev_user; fi

CMD ["/bin/bash"]
```

CONTAINERIZE THE APP—Docker text

```
FROM python:3.6.5-alpine

WORKDIR /app

ADD . /app

RUN set -e; \ apk add --no-cache --virtual .build-deps \

            gcc \

            libc-dev \

            linux-headers \

            mariadb-dev \

            python3-dev \

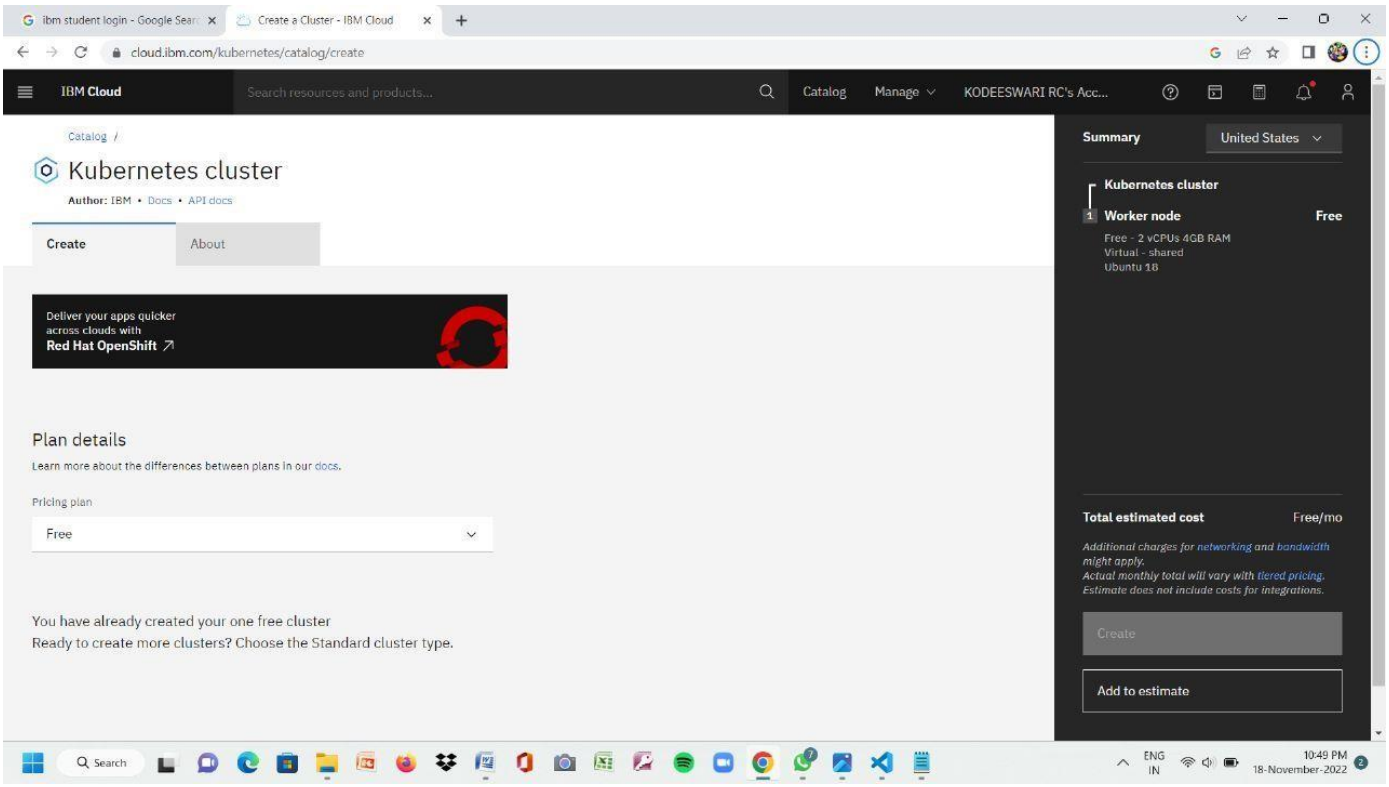
            postgresql-dev \

      ;COPY requirements.txt /app

RUN pip install -r requirements.txt

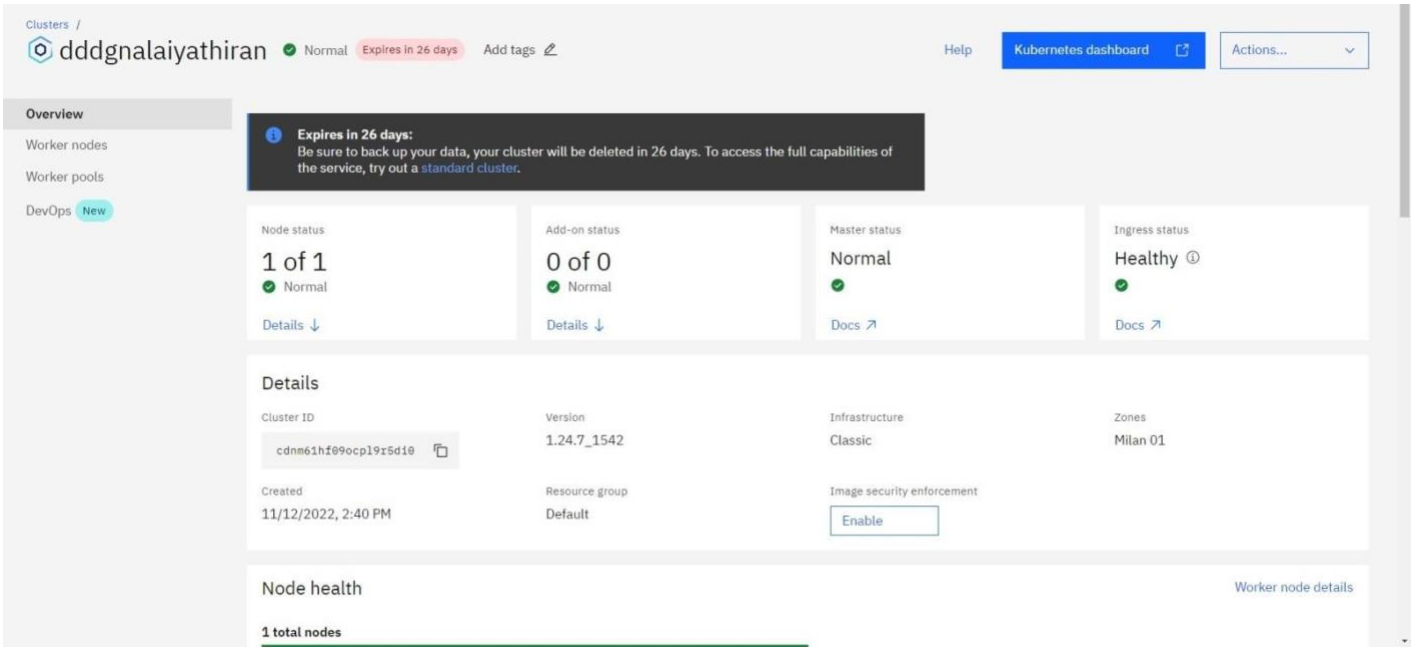
CMD ["python","app.py"]
```

UPLOAD IMAGE TO IBM CONTAINER :

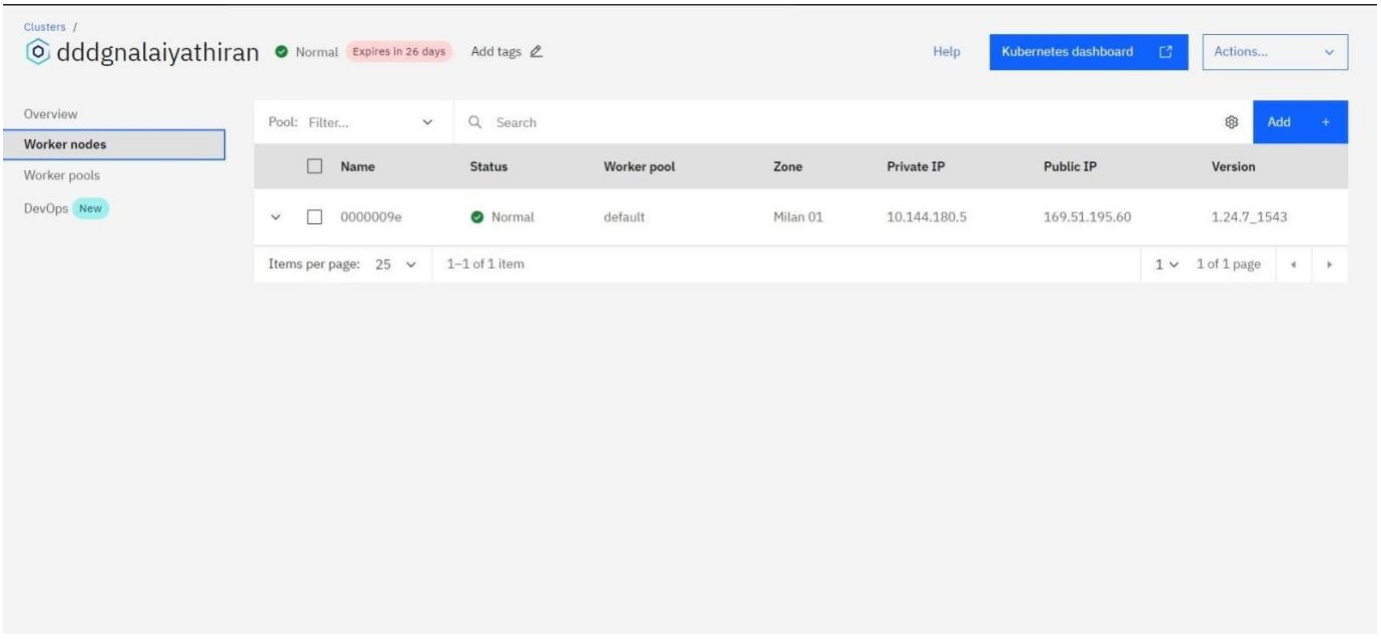


DEPLOY IN KUBERNETES CLUSTER :

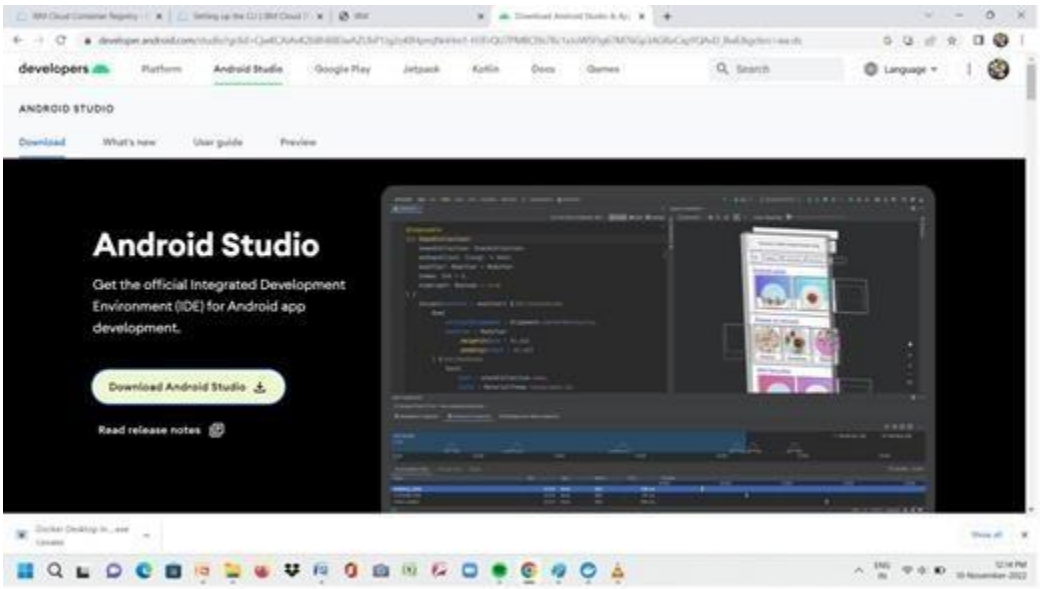
CREATE A KUBERNETES CLUSTER



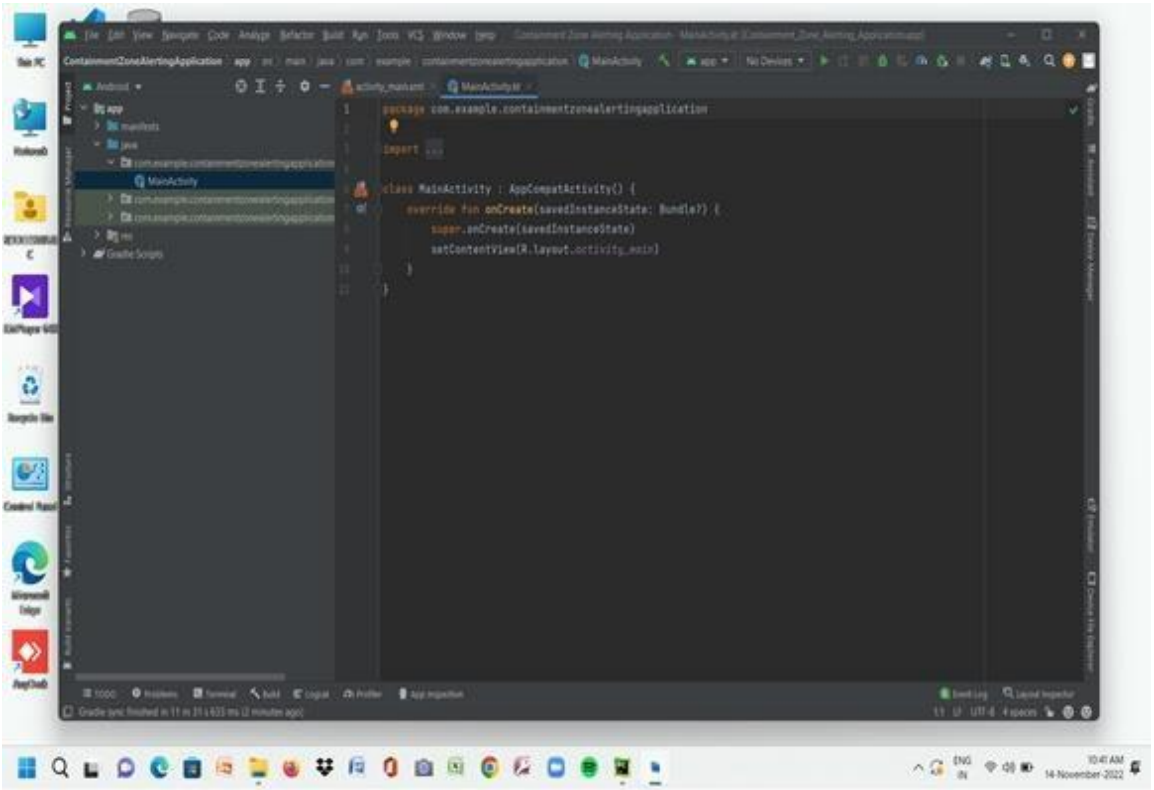
CREATED WORKER NODE



INSTALL ANDROID APP:



CREATE ANDROID APPLICATION:



ENABLE LOCATION SERVICES TO APP

LOCATION ENABLE CODE

```
public class GeofenceBroadcastReceiver extends BroadcastReceiver {
 // ...
 protected void onReceive(Context context, Intent intent) {
    GeofencingEvent geofencingEvent = GeofencingEvent.fromIntent(intent);
    if (geofencingEvent.hasError()) {
       String errorMessage = GeofenceStatusCodes
             .getStatusCodeString(geofencingEvent.getErrorCode());
       Log.e(TAG, errorMessage);
       return;
    }

    // Get the transition type.
    int geofenceTransition = geofencingEvent.getGeofenceTransition();

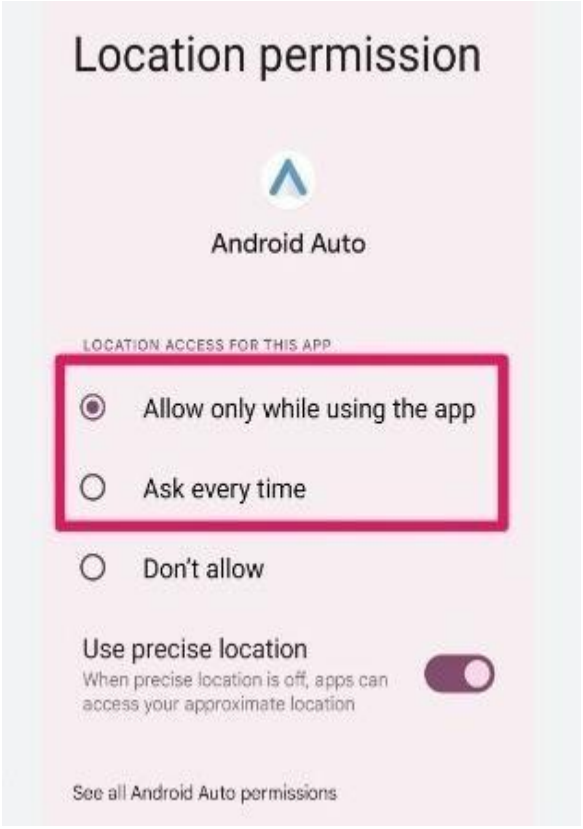
    // Test that the reported transition was of interest.
    if (geofenceTransition == Geofence.GEOFENCE_TRANSITION_ENTER ||
          geofenceTransition == Geofence.GEOFENCE_TRANSITION_EXIT) {

       // Get the geofences that were triggered. A single event can trigger
       // multiple geofences.
       List<Geofence> triggeringGeofences = geofencingEvent.getTriggeringGeofences();

       // Get the transition details as a String.
       String geofenceTransitionDetails = getGeofenceTransitionDetails(
             this,
             geofenceTransition,
             triggeringGeofences
       );

      // Send notification and log the transition details.
       sendNotification(geofenceTransitionDetails);
       Log.i(TAG, geofenceTransitionDetails);
    } else {
       // Log the error.
       Log.e(TAG, getString(R.string.geofence_transition_invalid_type,
             geofenceTransition));
    }
   }
 }
```

Location Services allows location-based apps and websites (including Maps, Camera, Safari, and other Apple/Android and third-party apps) to use information from cellular, Wi-Fi, and Global Positioning System (GPS) networks to determine your approximate location. To use this feature with Buddy Punch, you must enable Location Services on your device to allow the Buddy Punch app access.



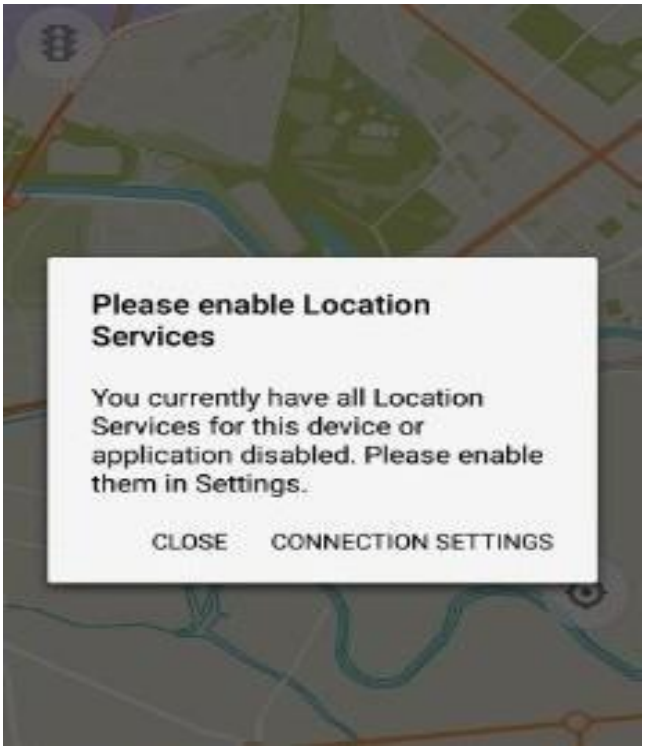


Fig 1 **Fig 2**

7.1 FEATURE 1

GEOFENCING CODE:

```
geofencingClient.removeGeofences(getGeofencePendingIntent())
 .addOnSuccessListener(this, new OnSuccessListener<Void>() {
    @Override
    public void onSuccess(Void aVoid) {
       // Geofences removed
       // ...
    }
 })
 .addOnFailureListener(this, new OnFailureListener() {
    @Override
    public void onFailure(@NonNull Exception e) {
       // Failed to remove geofences
       // ...
    }
 }
```

OUTPUT:

SETUP GEOFENCE

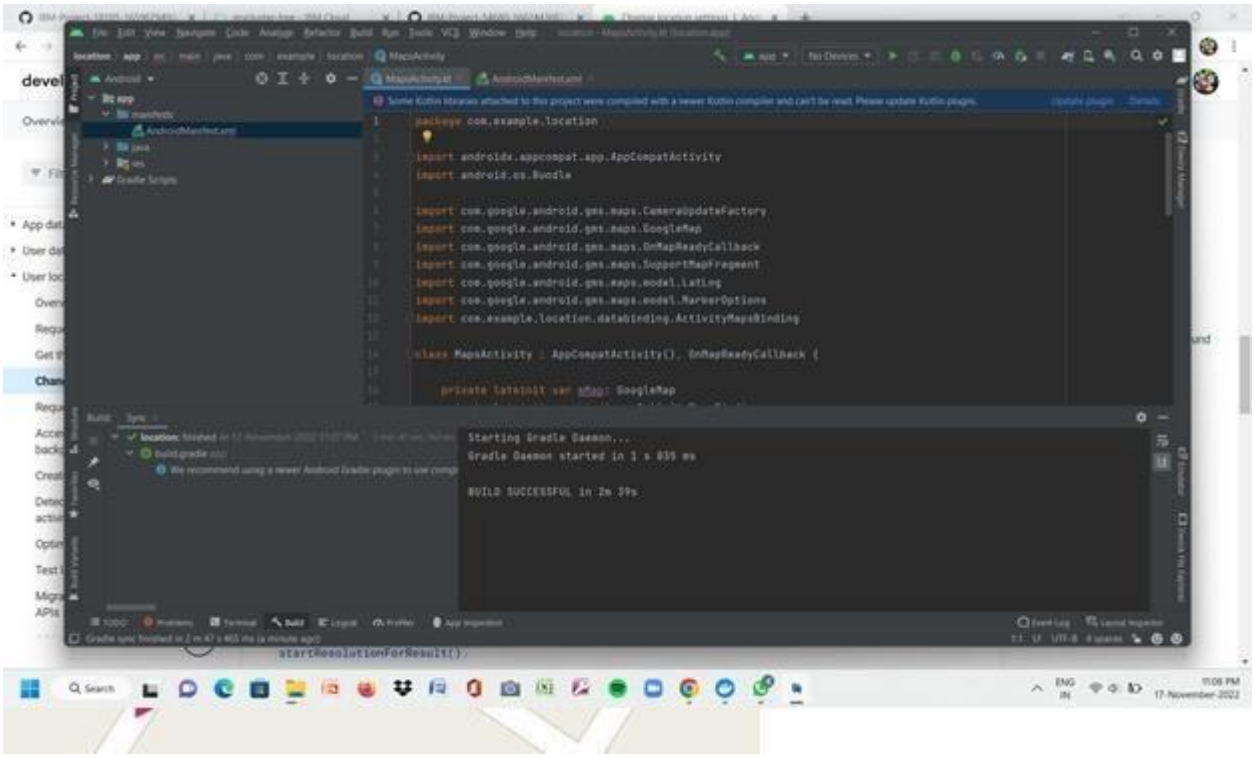
To set up a geofence, we need to create a Geofence object using the Geofence.Builder class. This class requires the following parameters:

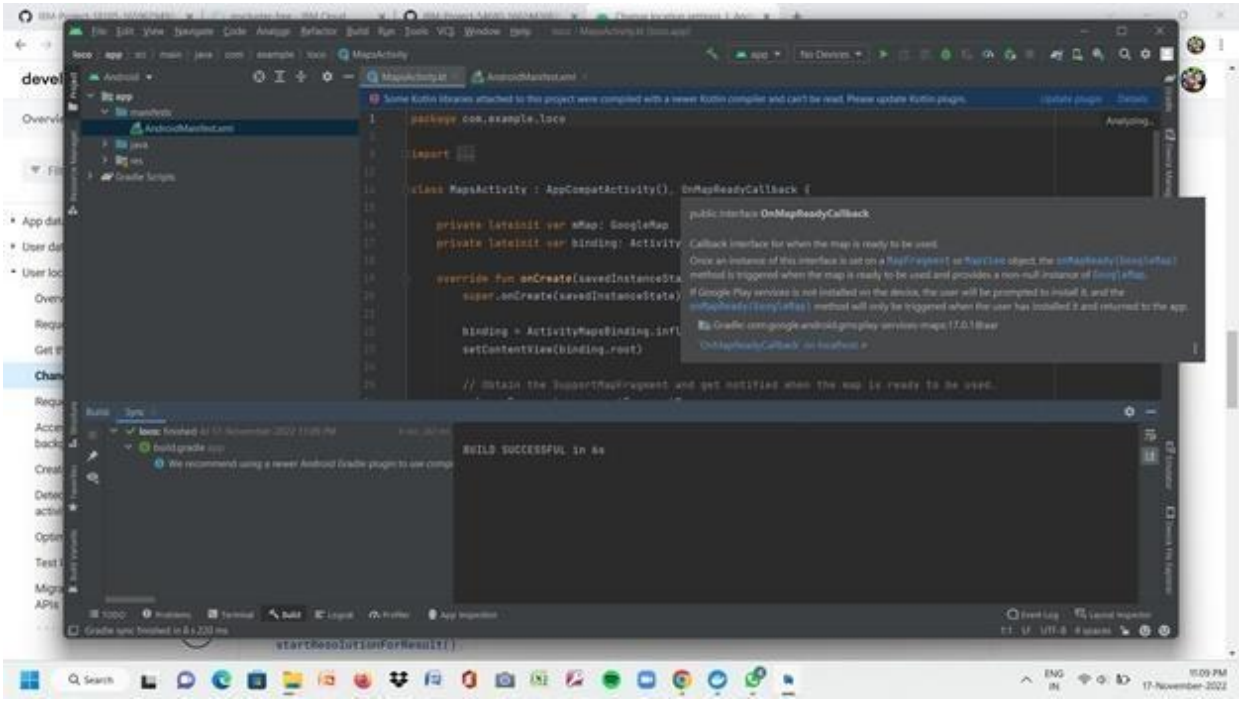
- The geofence's circular region
- The geofence's expiration duration
- The geofence's transition types
- The geofence's notification responses

BUILD THE APK FILE

STEPS:

1. Open the project in Android Studio.
2. Click File > Build > Generate Signed APK.
3. In the next window, select either app or module in the Moduledrop down.
4. Select the release configuration and click Next.
5 Enter the keystore path, password, and alias. Then, click Next.
6. Select the destination directory and click Finish.





SPRINT 1 CODING

Create-flask

```
from turtle import st
from flask import Flask, render_template, request, redirect, url_for, session
from markupsafe import escape
app = Flask(name)
import ibm_db
hostname="21fecfd8-47b7-4937-840d-
d791d0218660.bs2io90l08kqb1od8lcg.databases.appdomain.cloud"
uid = "qks09318"
pwd = "JzP1aXXWusxW68kV"
driver = "{IBM DB2 ODBC DRIVER}"
db = "bludb"
port = "31864"
protocol = "TCPIP"
cert = "certificate.crt"
dsn = (
    "DATABASE={0};"
    "HOSTNAME={1};"
    "PORT={2};"
    "UID={3};"
    "SECURITY=SSL;"
    "SSLServerCertificate={4};"
    "PWD={5};"
).format(db, hostname, port, uid, cert, pwd)
print(dsn)
try:
    db2 = ibm_db.connect(dsn, "", "")
    print(" Success Connected to data base")
except:
    print("Unable to connect", ibm_db.conn_errormsg())
@app.route('/')
def home():
    return render_template('home.html')
@app.route('/signin')
def signin():
    return render_template('login.html')
```

```
@app.route('/signup')
def signup():
    return render_template('signup.html')
@app.route('/logout')
def logout():
    return render_template('home.html')
@app.route('/register', methods=['POST', 'GET'])
def register():
    if request.method == 'POST':
        username = request.form['username']
        email = request.form['email']
        password = request.form['password']
        sql = "SELECT * FROM user WHERE username =?"
        stmt = ibm_db.prepare(db2, sql)
        ibm_db.bind_param(stmt, 1, username)
        ibm_db.execute(stmt)
        account = ibm_db.fetch_assoc(stmt)
 if account:
            return render_template('logout.html', msg="Username Already Taken")
        else:
            sql = "insert into user(username,email,password) values(?,?,?)"
            prep_stmt = ibm_db.prepare(db2, sql)
            ibm_db.bind_param(prep_stmt, 1, username)
            ibm_db.bind_param(prep_stmt, 2, email)
            ibm_db.bind_param(prep_stmt, 3, password)
            ibm_db.execute(prep_stmt)
            return redirect(url_for('login'))
@app.route('/login', methods=['POST', 'GET'] )
def login():
    if request.method == 'POST':
        username = request.form['username']
        password = request.form['password']
        sql = "select * from user where username=? and password=?"
        stmt = ibm_db.prepare(db2, sql)
        ibm_db.bind_param(stmt, 1, username)
        ibm_db.bind_param(stmt, 2, password)
        ibm_db.execute(stmt)
```

```
        dic = ibm_db.fetch_assoc(stmt)
        print(dic)
        if dic:
            return render_template('home.html', msg="WELCOME")
        else:
            msg = "Invalid Username or Password"
            return render_template('login.html', msg=msg)

    elif request.method == 'GET':
        msg = "Invalid Username or Password"
        return render_template('login.html', msg=msg)
if name == 'main':
    app.run(debug=True,host='0.0.0.0',port="8080")
createauiwithhtmlcode
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta http-equiv="X-UA-Compatible" content="IE=edge">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <linkhref="https://cdn.jsdelivr.net/npm/bootstrap@5.0.2/dist/css/bootstrap.min.css"
rel="stylesheet"integrity="sha384-
EVSTQN3/azprG1Anm3QDgpJLIm9Nao0Yz1ztcQTwFspd3yD65VohhpuuCOmLASjC"
crossorigin="anonymous">
    <link rel="stylesheet" href="style.css">
    <linkrel="stylesheet"
href="https://stackpath.bootstrapcdn.com/bootstrap/4.5.2/css/bootstrap.min.css"integrity="sha384-
JcKb8q3iqJ61gNV9KGb8thSsNjpSL0n8PARn9HuZOnIxN0hoP+VmmDGMN5t9UJ0Z"
crossorigin="anonymous">
    <scriptsrc="https://code.jquery.com/jquery-3.5.1.slim.min.js"integrity="sha384-
DfXdz2htPH0lsSSs5nCTpuj/zy4C+OGpamoFVy38MVBnE+IbbVYUew+OrCXaRkfj"
crossorigin="anonymous"></script>
    <scriptsrc="https://cdn.jsdelivr.net/npm/popper.js@1.16.1/dist/umd/popper.min.js"
integrity="sha384-
9/reFTGAW83EW2RDu2S0VKaIzap3H66lZH81PoYlFhbGU+6BZp6G7niu735Sk7lN"
crossorigin="anonymous"></script>
```

```
   <scriptsrc="https://stackpath.bootstrapcdn.com/bootstrap/4.5.2/js/bootstrap.min.js"
integrity="sha384B4gt1jrGC7Jh4AgTPSdUtOBvfO8shuf57BaghqFfPlYxofvL8/KUEfYiJOMMV+rV
" crossorigin="anonymous"></script>
   <title>Home</title>
</head>
<body class="home">
   <h1> CONTAINMENT ZONE ALERTING </h1>
   <div id="sectionhomepg">
         <div class="container">
            <div class="d-flex flex-row">
               <img src="logo.jpg " class="img-1">
               <div class="d-flex flex-column al-btn">
                <buttonclass="btnbtn-darkbtn-1text"
onclick="display('sectionloginpg')">Login</button>
                <buttonclass="btnbtn-primarybtn-1text"
onclick="display('sectionregisterpg')">Register </button>
               </div>
            </div>
         </div>
   </div>
   <div id="sectionloginpg" class="loginpage">
      <div class="container-1">
         <p class="text-center h1 fw-bold mb-5 mx-1 mx-md-4 mt-4 text-h">Login</p>
         <form>
          <!-- Email input -->
          <div class="form-outline mb-4">
            <label class="form-label text" for="form2Example1">Email address</label>
            <input type="email" id="form2Example1" class="form-control" />
          </div>
          <!-- Password input -->
          <div class="form-outline mb-4">
            <label class="form-label text" for="form2Example2">Password</label>
            <input type="password" id="form2Example2" class="form-control" />
          </div>
         <!-- 2 column grid layout for inline styling -->
          <div class="row mb-4">
            <div class="col d-flex justify-content-center">
```

```
            <!-- Checkbox -->
            <div class="form-check">
              <input  class="form-check-input"  type="checkbox"  value=""  id="form2Example31"
checked />
              <label class="form-check-label text" for="form2Example31"> Remember me </label>
            </div>
          </div>
        <div class="col">
            <!-- Simple link -->
            <a href="#!" class="text">Forgot password?</a>
          </div>
        </div>
        <!-- Submit button -->
        <div class="d-flex justify-content-center mx-4 mb-3 mb-lg-4">
          <button  type="button"  class="text  btn  btn-primary  btn-block  mb-4  btn-2"
onclick="display('sectionhomepg')">Login</button>
          <button  type="button"  class="text  btn  btn-warning  btn-block  mb-4  btn-2"
onclick="display('sectionhomepg')">Home</button>
        </div>
        <!-- Register buttons -->
        <div class="text-center">
          <p class="text">Not a member? <a href="#!" class="text">Register</a></p>
          <p class="text">or sign up with:</p>
          <button type="button" class="btn btn-link btn-floating mx-1">
            <i class="fab fa-facebook-f"></i>
          </button>
        <button type="button" class="btn btn-link btn-floating mx-1">
            <i class="fab fa-google"></i>
          </button>

          <button type="button" class="btn btn-link btn-floating mx-1">
            <i class="fab fa-twitter"></i>
          </button>

          <button type="button" class="btn btn-link btn-floating mx-1">
            <i class="fab fa-github"></i>
          </button>
```

```
          </div>
         </form>
        </div>
      </div>
    </div>
<div id="sectionregisterpg">
     <div class="register">
       <div class="row d-flex justify-content-center  align-items-center">
         <div class="col-lg-6 col-xl-11">
          <div class=" p-md-5">
           <div class="row justify-content-center">
            <div class="col-md-10 col-lg-6 col-xl-5 order-2 order-lg-1">
                <p class="text-center h1 fw-bold mb-5 mx-1 mx-md-4 mt-4">Sign up</p>
                <form class="mx-1 mx-md-4">
                  <div class="d-flex flex-row align-items-center mb-4">
                    <i class="fas fa-user fa-lg me-3 fa-fw"></i>
                    <div class="form-outline flex-fill mb-0">
                      <label class="form-label text" for="form3Example1c">Your Name</label>
                      <input type="text" id="form3Example1c" class="form-control" />
                    </div>
                  </div>
             <div class="d-flex flex-row align-items-center mb-4">
                    <i class="fas fa-envelope fa-lg me-3 fa-fw"></i>
                    <div class="form-outline flex-fill mb-0">
                      <label class="form-label text" for="form3Example3c">Your Email</label>
                      <input type="email" id="form3Example3c" class="form-control" />
                    </div>
                  </div>
          <div class="d-flex flex-row align-items-center mb-4">
                    <i class="fas fa-envelope fa-lg me-3 fa-fw"></i>
                    <div class="form-outline flex-fill mb-0">
                      <labelclass="form-labeltext"for="form3Example3c">Mobile Number</label>
                      <input type="email" id="form3Example3c" class="form-control" />
                  </div>
                  </div>
           <div class="d-flex flex-row align-items-center mb-4">
                    <i class="fas fa-lock fa-lg me-3 fa-fw"></i>
```

```
                    <div class="form-outline flex-fill mb-0">
                      <label class="form-label text" for="form3Example4c">Password</label>
                      <input type="password" id="form3Example4c" class="form-control" />
                    </div>
                  </div>

                  <div class="d-flex flex-row align-items-center mb-4">
                    <i class="fas fa-key fa-lg me-3 fa-fw"></i>
                    <div class="form-outline flex-fill mb-0">
                      <label class="form-label text" for="form3Example4cd">Repeat your password</label>
                      <input type="password" id="form3Example4cd" class="form-control" />
                    </div>
                  </div>
            <div class="form-check d-flex ckb mb-5">
                      <input class="form-check-input me-2" type="checkbox" value="" id="form2Example3c" />
                      <label class="form-check-label " for="form2Example3">I agree all statements in <a href="#!">Terms of service</a></label>
                    </div>
              <div class="d-flex justify-content-center mx-4 mb-3 mb-lg-4">
                      <button type="button" class="text btn btn-primary btn-block mb-4 btn-2" onclick="display('sectionhomepg')">Register</button>
                      <button type="button" class="text btn btn-warning btn-block mb-4 btn-2" onclick="display('sectionhomepg')">Home</button>
                    </div>
                  </form>
                </div>
              </div>
            </div>
          </div>
        </div>
      </div>
    </div>
    <scripttype="text/javascript"src="https://d1tgh8fmlzexmh.cloudfront.net/ccbp-static-website/js/ccbp-ui-kit.js"></script>
</body>
</html>
```

SPRINT 2

```
<!DOCTYPE html>

<html> <head>

<meta charset="utf-8">

<meta name="viewport" content="width=device-width, initial-scale=1, shrink-to-fit=no">

<meta name="description" content="Start your development with a Dashboard for Bootstrap 4.">

<meta name="author" content="Creative Tim">

<title>BESAFE | Dashboard</title>

<!-- Favicon -->

<link rel="icon" href="static/img/brand/favicon.png" type="image/png">

<!-- Fonts -->

<link rel="stylesheet" href="https://fonts.googleapis.com/css?family=Open+Sans:300,400,600,700">

<!-- Icons -->

<link rel="stylesheet" href="static/vendor/nucleo/css/nucleo.css" type="text/css">

<linkrel="stylesheet"href="static/vendor/@fortawesome/fontawesome-free/css/all.min.css"
type="text/css">

<!-- Page plugins -->

<!-- Argon CSS -->

<link rel="stylesheet" href="static/css/argon.css?v=1.2.0" type="text/css">

</head><body>

<!-- Sideman -->

<nav class="sidenav navbar navbar-vertical  fixed-left  navbar-expand-xs navbar-light bg-white"
id="sidenav-main">

  <div class="scrollbar-inner">

    <!-- Brand -->

    <div class="sidenav-header  align-items-center">

      <a class="navbar-brand" href="javascript:void(0)">

        <img src="static/images/Besafelogo.png" class="navbar-brand-img" alt="...">

      </a>

    </div>

    <div class="navbar-inner">

      <!-- Collapse -->

      <div class="collapse navbar-collapse" id="sidenav-collapse-main">
```

```
        <!-- Nav items -->
        <ul class="navbar-nav">
         <li class="nav-item">
           <a class="nav-link active" href="examples/dashboard.html">
             <i class="ni ni-tv-2 text-primary"></i>
             <span class="nav-link-text">Dashboard</span>
           </a>
         </li>
         <li class="nav-item">
           <a class="nav-link" href="/verify">
             <i class="ni ni-square-pin text-primary"></i>
             <span class="nav-link-text">Verify your location</span>
           </a>
         </li>
         <li class="nav-item">
           <a class="nav-link" href="/visitedzones">
             <i class="ni ni-bullet-list-67 text-default"></i>
             <span class="nav-link-text">Visited zones</span>
           </a>
         </li>
        </ul>
        <!-- Divider -->
        <hr class="my-3">
        <!-- Navigation -->
</ul>
      </div>
    </div>
  </div>
 </nav>
 <!-- Main content -->
 <div class="main-content" id="panel">
   <!-- Topnav -->
```

```
<nav class="navbar navbar-top navbar-expand navbar-dark bg-primary border-bottom">
  <div class="container-fluid">
    <div class="collapse navbar-collapse" id="navbarSupportedContent">
      <!-- Search form -->
      <form class="navbar-search navbar-search-light form-inline mr-sm-3" id="navbar-search-main">
        <div class="form-group mb-0">
          <div class="input-group input-group-alternative input-group-merge">
            <div class="input-group-prepend">
              <span class="input-group-text"><i class="fas fa-search"></i></span>
            </div>
            <input class="form-control" placeholder="Search" type="text">
          </div>
        </div>
        <button type="button" class="close" data-action="search-close" data-target="#navbar-search-main" aria-label="Close">
          <span aria-hidden="true"> </span>
        </button>
      </form>
      <!-- Navbar links -->
      <ul class="navbar-nav align-items-center  ml-md-auto ">
        <li class="nav-item d-xl-none">
          <!-- Sideman toggler -->
          <div class="pr-3 sidenav-toggler sidenav-toggler-dark" data-action="sidenav-pin" data-target="#sidenav-main">
            <div class="sidenav-toggler-inner">
              <i class="sidenav-toggler-line"></i>
              <i class="sidenav-toggler-line"></i>
              <i class="sidenav-toggler-line"></i>
            </div>
          </div>
        </li>
        <li class="nav-item d-sm-none">
```

```
          <a class="nav-link" href="#" data-action="search-show" data-target="#navbar-search-main">
            <i class="ni ni-zoom-split-in"></i>
          </a>
        </li> </ul>
      <ul class="navbar-nav align-items-center ml-auto ml-md-0 ">
        <li class="nav-item dropdown">
          <a class="nav-link pr-0" href="#" role="button" data-toggle="dropdown" aria-haspopup="true" aria-expanded="false">
            <div class="media align-items-center">
              <span class="avatar avatar-sm rounded-circle">
                <img alt="Image placeholder" src="static/images/icon.jpg">
              </span>
              <div class="media-body ml-2 d-none d-lg-block">
                <span class="mb-0 text-sm font-weight-bold">{{user}}</span>
              </div>
            </div>
          </a>
          <div class="dropdown-menu dropdown-menu-right ">
            <div class="dropdown-header noti-title">
              <h6 class="text-overflow m-0">Welcome!</h6>
            </div>
            <a href="#!" class="dropdown-item">
              <i class="ni ni-single-02"></i>
              <span>My profile</span>
            </a>
            <a href="#!" class="dropdown-item">
              <i class="ni ni-settings-gear-65"></i>
              <span>Settings</span>
            </a>
            <div class="dropdown-divider"></div>
            <a href="/logout" class="dropdown-item">
              <i class="ni ni-user-run"></i>
```

```
            <span>Logout</span>
          </a>
        </div>
      </li>
    </ul>
  </div>
 </div>
</nav>
<!-- Header -->
<!-- Header -->
<div class="header bg-primary pb-6">
 <div class="container-fluid">
  <div class="header-body">
   <div class="row align-items-center py-4">
    <div class="col-lg-6 col-7">
     <h6 class="h2 text-white d-inline-block mb-0">Default</h6>
     <nav aria-label="breadcrumb" class="d-none d-md-inline-block ml-md-4">
      <ol class="breadcrumb breadcrumb-links breadcrumb-dark">
       <li class="breadcrumb-item"><a href="#"><i class="fas fa-home"></i></a></li>
       <li class="breadcrumb-item"><a href="#">Dashboards</a></li>
       <li class="breadcrumb-item active" aria-current="page">Default</li>
      </ol>
     </nav>
    </div>
    <div class="col-lg-6 col-5 text-right">
     <a href="/dashboard" class="btn btn-sm btn-neutral">Refresh</a>
    </div>
   </div>
   <!-- Card stats -->
   <div class="row">
    <div class="col-xl-3 col-md-6">
     <div class="card card-stats">
```

```
    <!-- Card body -->
    <div class="card-body">
      <div class="row">
        <div class="col">
          <h5 class="card-title text-uppercase text-muted mb-0">Active cases</h5>
          <span class="h2 font-weight-bold mb-0">{{activecases}}</span>
        </div>
        <div class="col-auto">
          <div class="icon icon-shape bg-gradient-red text-white rounded-circle shadow">
            <i class="ni ni-active-40"></i>
          </div>
        </div>
      </div>
      <p class="mt-3 mb-0 text-sm">
        <span class="text-nowrap">Total cases across our nation </span>
      </p>
    </div>
  </div>
</div>
<div class="col-xl-3 col-md-6">
  <div class="card card-stats">
    <!-- Card body -->
    <div class="card-body">
      <div class="row">
        <div class="col">
          <h5 class="card-title text-uppercase text-muted mb-0">New Cases</h5>
          <span class="h2 font-weight-bold mb-0">{{newcases}}</span>
        </div>
        <div class="col-auto">
          <div class="icon icon-shape bg-gradient-orange text-white rounded-circle shadow">
            <i class="ni ni-chart-pie-35"></i>
          </div>
```

```
        </div>
      </div>
      <p class="mt-3 mb-0 text-sm">
        <span class="text-success mr-2"><i class="fa fa-arrow-up"></i> </span>
        <span class="text-nowrap">Since 24 hrs</span>
      </p>
    </div>
  </div>
</div>
<div class="col-xl-3 col-md-6">
  <div class="card card-stats">
    <!-- Card body -->
    <div class="card-body">
      <div class="row">
        <div class="col">
          <h5 class="card-title text-uppercase text-muted mb-0">Deaths</h5>
          <span class="h2 font-weight-bold mb-0">{{deaths}}</span>
        </div>
        <div class="col-auto">
          <div class="icon icon-shape bg-gradient-green text-white rounded-circle shadow">
            <i class="ni ni-money-coins"></i>
          </div>
        </div>
      </div>
      <p class="mt-3 mb-0 text-sm">
        <span class="text-nowrap">Since 24 hrs </span>
      </p>
    </div>
  </div>
</div>
<div class="col-xl-3 col-md-6">
  <div class="card card-stats">
```

```
            <!-- Card body -->
            <div class="card-body">
              <div class="row">
                <div class="col">
                  <h5 class="card-title text-uppercase text-muted mb-0">Recovered </h5>
                  <span class="h2 font-weight-bold mb-0">{{recovered}}</span>
                </div>
                <div class="col-auto">
                  <div class="icon icon-shape bg-gradient-info text-white rounded-circle shadow">
                    <i class="ni ni-chart-bar-32"></i>
                  </div>
                </div>
              </div>
              <p class="mt-3 mb-0 text-sm">
                <span class="text-success mr-2"><i class="fa fa-arrow-up"></i> </span>
                <span class="text-nowrap">Total recovered cases</span>
              </p>
            </div>
          </div>
        </div>
      </div>
    </div>
  </div>
  <!-- Page content -->

        <div class="card-body">
          <!-- Chart -->
          <div class="chart">
            <!-- Chart wrapper –
<!-- Projects table -->
<!-- Footer -->
```

```
    <footer class="footer pt-0">
      <div class="row align-items-center justify-content-lg-between">
        <div class="col-lg-6">
          <div class="copyright text-center  text-lg-left  text-muted">
            &copy; 2021 <a href="https://www.instagram.com/asuvath.in/" class="font-weight-bold ml-1" target="_blank">@asuvath.in</a>
          </div>
        </div>
        <div class="col-lg-6">
          <ul class="nav nav-footer justify-content-center justify-content-lg-end">
            <li class="nav-item">
              <a href="/" class="nav-link" target="_blank">About Us</a>
            </li>
          </ul>
        </div>
      </div>
    </footer>
  </div>
 </div>
 <!-- Argon Scripts -->
 <!-- Core -->
 <script src="static/vendor/jquery/dist/jquery.min.js"></script>
 <script src="static/vendor/bootstrap/dist/js/bootstrap.bundle.min.js"></script>
 <script src="static/vendor/js-cookie/js.cookie.js"></script>
 <script src="static/vendor/jquery.scrollbar/jquery.scrollbar.min.js"></script>
 <script src="static/vendor/jquery-scroll-lock/dist/jquery-scrollLock.min.js"></script>
 <!-- Optional JS -->
 <script src="static/vendor/chart.js/dist/Chart.min.js"></script>
 <script src="static/vendor/chart.js/dist/Chart.extension.js"></script>
 <!-- Argon JS -->
 <script src="static/js/argon.js?v=1.2.0"></script>
</div>
</body>
```

```
</html>
<!DOCTYPE html>

<html> <head>

  <meta charset="utf-8">

  <meta name="viewport" content="width=device-width, initial-scale=1, shrink-to-fit=no">

  <meta name="description" content="Start your development with a Dashboard for Bootstrap 4.">

  <meta name="author" content="Creative Tim">

  <title>BESAFE | VISITEDZONES</title>

  <!-- Favicon -->

  <link rel="icon" href="static/img/brand/favicon.png" type="image/png">

  <!-- Fonts -->

  <link rel="stylesheet" href="https://fonts.googleapis.com/css?family=Open+Sans:300,400,600,700">

  <!-- Icons -->

  <link rel="stylesheet" href="static/vendor/nucleo/css/nucleo.css" type="text/css">

  <linkrel="stylesheet"href="static/vendor/@fortawesome/fontawesome-free/css/all.min.css"
type="text/css">

  <!-- Page plugins -->

  <!-- Argon CSS -->

  <link rel="stylesheet" href="static/css/argon.css?v=1.2.0" type="text/css">

</head><body>

  <!-- Sideman -->

  <nav class="sidenav navbar navbar-vertical  fixed-left  navbar-expand-xs navbar-light bg-white"
id="sidenav-main">

    <div class="scrollbar-inner">

      <!-- Brand -->

      <div class="sidenav-header  align-items-center">

        <a class="navbar-brand" href="javascript:void(0)">

          <img src="static/images/Besafelogo.png" class="navbar-brand-img" alt="...">

        </a>

      </div>

      <div class="navbar-inner">

        <!-- Collapse -->

        <div class="collapse navbar-collapse" id="sidenav-collapse-main">

          <!-- Nav items -->
```

```
        <ul class="navbar-nav">
          <li class="nav-item">
            <a class="nav-link active" href="/dashboard">
              <i class="ni ni-tv-2 text-primary"></i>
              <span class="nav-link-text">Dashboard</span>
            </a>
          </li>
          <li class="nav-item">
            <a class="nav-link" href="/verify">
              <i class="ni ni-pin-3 text-primary"></i>
              <span class="nav-link-text">Verify your location</span>
            </a>
          </li>
          <li class="nav-item">
            <a class="nav-link" href="">
              <i class="ni ni-bullet-list-67 text-default"></i>
              <span class="nav-link-text">Visited zones</span>
            </a>
          </li>
        </ul>
        <!-- Divider -->
        <hr class="my-3">
        <!-- Navigation --> </ul>
      </div>
    </div>
  </div>
</nav>
<!-- Main content -->
<div class="main-content" id="panel">
  <!-- Topnav -->
  <nav class="navbar navbar-top navbar-expand navbar-dark bg-primary border-bottom">
    <div class="container-fluid">
```

```
<div class="collapse navbar-collapse" id="navbarSupportedContent">
<!-- Search form -->
<form class="navbar-search navbar-search-light form-inline mr-sm-3" id="navbar-search-main">
<div class="form-group mb-0">
<div class="input-group input-group-alternative input-group-merge">
<div class="input-group-prepend">
<span class="input-group-text"><i class="fas fa-search"></i></span>
</div>
<input class="form-control" placeholder="Search" type="text">
</div>
</div>
<button type="button" class="close" data-action="search-close" data-target="#navbar-search-main" aria-label="Close">
<span aria-hidden="true">×</span>
</button>
</form>
<!-- Navbar links -->
<ul class="navbar-nav align-items-center  ml-md-auto ">
<li class="nav-item d-xl-none">
<!-- Sideman toggler -->
<div class="pr-3 sidenav-toggler sidenav-toggler-dark" data-action="sidenav-pin" data-target="#sidenav-main">
<div class="sidenav-toggler-inner">
<i class="sidenav-toggler-line"></i>
<i class="sidenav-toggler-line"></i>
<i class="sidenav-toggler-line"></i>
</div>
</div>
</li>
<li class="nav-item d-sm-none">
<a class="nav-link" href="#" data-action="search-show" data-target="#navbar-search-main">
<i class="ni ni-zoom-split-in"></i>
```

```
          </a>
         </li>    </ul>
        <ul class="navbar-nav align-items-center  ml-auto ml-md-0 ">
         <li class="nav-item dropdown">
          <a class="nav-link pr-0" href="#" role="button" data-toggle="dropdown" aria-haspopup="true" aria-expanded="false">
           <div class="media align-items-center">
            <span class="avatar avatar-sm rounded-circle">
             <img alt="Image placeholder" src="static/images/icon.jpg">
            </span>
            <div class="media-body  ml-2  d-none d-lg-block">
             <span class="mb-0 text-sm  font-weight-bold">{{user}}</span>
            </div>
           </div>
          </a>
          <div class="dropdown-menu  dropdown-menu-right ">
           <div class="dropdown-header noti-title">
            <h6 class="text-overflow m-0">Welcome!</h6>
           </div>
           <a href="#!" class="dropdown-item">
            <i class="ni ni-single-02"></i>
            <span>My profile</span>
           </a>
           <a href="#!" class="dropdown-item">
            <i class="ni ni-settings-gear-65"></i>
            <span>Settings</span>
           </a>
           <div class="dropdown-divider"></div>
           <a href="/logout" class="dropdown-item">
            <i class="ni ni-user-run"></i>
            <span>Logout</span>
           </a>
          </div>
```

```
        </li>
       </ul>
     </div>
   </div>
</nav>
<!-- Header -->
<!-- Header -->
<div class="header bg-primary pb-6">
  <div class="container-fluid">
    <div class="header-body">
      <div class="row align-items-center py-4">
        <div class="col-lg-6 col-7">
          <h6 class="h2 text-white d-inline-block mb-0">Default</h6>
          <nav aria-label="breadcrumb" class="d-none d-md-inline-block ml-md-4">
            <ol class="breadcrumb breadcrumb-links breadcrumb-dark">
              <li class="breadcrumb-item"><a href="#"><i class="fas fa-home"></i></a></li>
              <li class="breadcrumb-item"><a href="#">Dashboards</a></li>
              <li class="breadcrumb-item active" aria-current="page">Default</li>
            </ol>
          </nav>
        </div>
      </div>
      <!-- Card stats -->
      <div class="login text-center mt-5">
    <h1 style="color:white;"> VISITED ZONES </h1>
    <div class="msg" style="color:white;">{{ msg }}</div>
        <div class="visitedzones" style="color:yellow;">{{ visitedzones }}</div
      </div> <!-- Footer -->
  <footer class="footer pt-0">
    <div class="row align-items-center justify-content-lg-between">
      <div class="col-lg-6">
        <div class="copyright text-center  text-lg-left  text-muted">
```

```
          &copy; 2021 <a href="https://www.instagram.com/asuvath.in/" class="font-weight-bold ml-1" target="_blank">@asuvath.in</a>
        </div>
      </div>
      <div class="col-lg-6">
        <ul class="nav nav-footer justify-content-center justify-content-lg-end">
          <li class="nav-item">
            <a href="/" class="nav-link" target="_blank">About Us.</a>
          </li>
        </ul>
      </div>
    </div>
  </footer>
 </div>
</div>
<!-- Argon Scripts -->
<!-- Core -->
<script src="static/vendor/jquery/dist/jquery.min.js"></script>
<script src="static/vendor/bootstrap/dist/js/bootstrap.bundle.min.js"></script>
<script src="static/vendor/js-cookie/js.cookie.js"></script>
<script src="static/vendor/jquery.scrollbar/jquery.scrollbar.min.js"></script>
<script src="static/vendor/jquery-scroll-lock/dist/jquery-scrollLock.min.js"></script>
<!-- Optional JS -->
<script src="static/vendor/chart.js/dist/Chart.min.js"></script>
<script src="static/vendor/chart.js/dist/Chart.extension.js"></script>
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```
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  <meta name="author" content="Creative Tim">

  <title>BESAFE | ZONEDELETION</title>

  <!-- Favicon -->

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</head>


<body>

  <!-- Sideman -->

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    <div class="scrollbar-inner">

      <!-- Brand -->

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        <a class="navbar-brand" href="javascript:void(0)">

          <img src="static/images/Besafelogo.png" class="navbar-brand-img" alt="...">

        </a>

      </div>

      <div class="navbar-inner">

        <!-- Collapse -->
```

```
<div class="collapse navbar-collapse" id="sidenav-collapse-main">
  <!-- Nav items -->
  <ul class="navbar-nav">
    <li class="nav-item">
      <a class="nav-link active" href="/admin">
        <i class="ni ni-tv-2 text-primary"></i>
        <span class="nav-link-text">Dashboard</span>
      </a>
    </li>
    <li class="nav-item">
      <a class="nav-link" href="/countupdate">
        <i class="ni ni-pin-3 text-primary"></i>
        <span class="nav-link-text">COUNT UPDATE</span>
      </a>
    </li>
    <li class="nav-item">
      <a class="nav-link" href="/zoneupdate">
        <i class="ni ni-bullet-list-67 text-default"></i>
        <span class="nav-link-text">ZONE UPDATE</span>
      </a>
    </li>
    <li class="nav-item">
      <a class="nav-link" href="">
        <i class="ni ni-fat-remove text-default"></i>
        <span class="nav-link-text">ZONE DELETION</span>
      </a>
    </li>
  </ul>
  <!-- Divider -->
  <hr class="my-3">
  <!-- Navigation -->
```

```
        </ul>
       </div>
      </div>
    </div>
  </nav>
  <!-- Main content -->
  <div class="main-content" id="panel">
    <!-- Topnav -->
    <nav class="navbar navbar-top navbar-expand navbar-dark bg-primary border-bottom">
      <div class="container-fluid">
        <div class="collapse navbar-collapse" id="navbarSupportedContent">
          <!-- Search form -->
          <form class="navbar-search navbar-search-light form-inline mr-sm-3" id="navbar-search-main">
            <div class="form-group mb-0">
              <div class="input-group input-group-alternative input-group-merge">
                <div class="input-group-prepend">
                  <span class="input-group-text"><i class="fas fa-search"></i></span>
                </div>
                <input class="form-control" placeholder="Search" type="text">
              </div>
            </div>
            <button type="button" class="close" data-action="search-close" data-target="#navbar-search-main" aria-label="Close">
              <span aria-hidden="true">×</span>
            </button>
          </form>
          <!-- Navbar links -->
          <ul class="navbar-nav align-items-center  ml-md-auto ">
            <li class="nav-item d-xl-none">
              <!-- Sideman toggler -->
              <div class="pr-3 sidenav-toggler sidenav-toggler-dark" data-action="sidenav-pin" data-target="#sidenav-main">
                <div class="sidenav-toggler-inner">
```

```
            <i class="sidenav-toggler-line"></i>
            <i class="sidenav-toggler-line"></i>
            <i class="sidenav-toggler-line"></i>
          </div>
        </div>
      </li>
      <li class="nav-item d-sm-none">
        <a class="nav-link" href="#" data-action="search-show" data-target="#navbar-search-main">
          <i class="ni ni-zoom-split-in"></i>
        </a>
      </li>
  </ul>
      <ul class="navbar-nav align-items-center  ml-auto ml-md-0 ">
        <li class="nav-item dropdown">
          <a class="nav-link pr-0" href="#" role="button" data-toggle="dropdown" aria-haspopup="true" aria-expanded="false">
            <div class="media align-items-center">
              <span class="avatar avatar-sm rounded-circle">
                <img alt="Image placeholder" src="static/images/icon.jpg">
              </span>
              <div class="media-body  ml-2  d-none d-lg-block">
                <span class="mb-0 text-sm  font-weight-bold">{{user}}</span>
              </div>
            </div>
          </a>
          <div class="dropdown-menu  dropdown-menu-right ">
            <div class="dropdown-header noti-title">
              <h6 class="text-overflow m-0">Welcome!</h6>
            </div>
            <a href="/logout" class="dropdown-item">
              <i class="ni ni-single-02"></i>
              <span>My profile</span>
```

```
            </a>
            <a href="#!" class="dropdown-item">
              <i class="ni ni-settings-gear-65"></i>
              <span>Settings</span>
            </a>
            <div class="dropdown-divider"></div>
            <a href="/logout" class="dropdown-item">
              <i class="ni ni-user-run"></i>
              <span>Logout</span>
            </a>
          </div>
        </li>
      </ul>
    </div>
  </div>
</nav>
<!-- Header -->
<!-- Header -->
<div class="header bg-primary pb-6">
  <div class="container-fluid">
    <div class="header-body">
      <div class="row align-items-center py-4">
        <div class="col-lg-6 col-7">
          <h6 class="h2 text-white d-inline-block mb-0">Default</h6>
          <nav aria-label="breadcrumb" class="d-none d-md-inline-block ml-md-4">
            <ol class="breadcrumb breadcrumb-links breadcrumb-dark">
              <li class="breadcrumb-item"><a href="#"><i class="fas fa-home"></i></a></li>
              <li class="breadcrumb-item"><a href="#">Dashboards</a></li>
              <li class="breadcrumb-item active" aria-current="page">Default</li>
            </ol>
          </nav>
        </div>
```

```
          <div class="col-lg-6 col-5 text-right">
            <a href="#" class="btn btn-sm btn-neutral">Refresh</a>
          </div>
        </div>
        <!-- Card stats -->
        <div class="login text-center mt-5">
      <h1 style="color:white;"> ZONE DELETION  </h1>
      <form action="/zonedeletion" method="post">
      <div class="msg">{{ msg }}</div>

          <br><inputtype="text"style="text-transform:uppercase"name="state"
placeholder="STATE" id="state" required><br>
          <br><inputtype="text"style="text-transform:uppercase"name="district"
placeholder="DISTRICT" id="district" required><br>
          <br><inputtype="text" style="text-transform:uppercase" name="area" placeholder="CITY"
id="city" required><br>
     <button type="submit" id="button" class="btn btn-dark"> DELETE </button>
       </form>
   </div>
  <!-- Footer -->
     <footer class="footer pt-0">
       <div class="row align-items-center justify-content-lg-between">
         <div class="col-lg-6">
           <div class="copyright text-center  text-lg-left  text-muted">
             &copy; 2021 <a href="https://www.instagram.com/asuvath.in/" class="font-weight-bold ml-
1" target="_blank">@asuvath.in</a>
           </div>
         </div>
         <div class="col-lg-6">
           <ul class="nav nav-footer justify-content-center justify-content-lg-end">
             <li class="nav-item">
               <a href="/" class="nav-link" target="_blank">About Us.</a>
             </li>
           </ul>
```

```
        </div>
      </div>
    </footer>
  </div>
 </div>
 <!-- Argon Scripts -->
 <!-- Core -->
 <script src="static/vendor/jquery/dist/jquery.min.js"></script>
 <script src="static/vendor/bootstrap/dist/js/bootstrap.bundle.min.js"></script>
 <script src="static/vendor/js-cookie/js.cookie.js"></script>
 <script src="static/vendor/jquery.scrollbar/jquery.scrollbar.min.js"></script>
 <script src="static/vendor/jquery-scroll-lock/dist/jquery-scrollLock.min.js"></script>
 <!-- Optional JS -->
 <script src="static/vendor/chart.js/dist/Chart.min.js"></script>
 <script src="static/vendor/chart.js/dist/Chart.extension.js"></script>
 <!-- Argon JS -->
 <script src="static/js/argon.js?v=1.2.0"></script>
</div>
</div>
</body>


</html>
<!DOCTYPE html>
<html>


<head>
 <meta charset="utf-8">
 <meta name="viewport" content="width=device-width, initial-scale=1, shrink-to-fit=no">
 <meta name="description" content="Start your development with a Dashboard for Bootstrap 4.">
 <meta name="author" content="Creative Tim">
 <title>BESAFE | ZONEUPDATE</title>
 <!-- Favicon -->
 <link rel="icon" href="static/img/brand/favicon.png" type="image/png">
```

```
  <!-- Fonts -->
  <link rel="stylesheet" href="https://fonts.googleapis.com/css?family=Open+Sans:300,400,600,700">
  <!-- Icons -->
  <link rel="stylesheet" href="static/vendor/nucleo/css/nucleo.css" type="text/css">
  <link rel="stylesheet" href="static/vendor/@fortawesome/fontawesome-free/css/all.min.css" type="text/css">
  <!-- Page plugins -->
  <!-- Argon CSS -->
  <link rel="stylesheet" href="static/css/argon.css?v=1.2.0" type="text/css">
</head>

<body>
  <!-- Sideman -->
  <nav class="sidenav navbar navbar-vertical  fixed-left  navbar-expand-xs navbar-light bg-white" id="sidenav-main">
    <div class="scrollbar-inner">
      <!-- Brand -->
      <div class="sidenav-header  align-items-center">
        <a class="navbar-brand" href="javascript:void(0)">
          <img src="static/images/Besafelogo.png" class="navbar-brand-img" alt="...">
        </a>
      </div>
      <div class="navbar-inner">
        <!-- Collapse -->
        <div class="collapse navbar-collapse" id="sidenav-collapse-main">
          <!-- Nav items -->
          <ul class="navbar-nav">
            <li class="nav-item">
              <a class="nav-link active" href="/admin">
                <i class="ni ni-tv-2 text-primary"></i>
                <span class="nav-link-text">Dashboard</span>
              </a>
            </li>
```

```
        <li class="nav-item">
          <a class="nav-link" href="/countupdate">
            <i class="ni ni-pin-3 text-primary"></i>
            <span class="nav-link-text">COUNT UPDATE</span>
          </a>
        </li>
        <li class="nav-item">
          <a class="nav-link" href="">
            <i class="ni ni-bullet-list-67 text-default"></i>
            <span class="nav-link-text">ZONE UPDATE</span>
          </a>
        </li>
        <li class="nav-item">
          <a class="nav-link" href="/zonedeletion">
            <i class="ni ni-fat-remove text-default"></i>
            <span class="nav-link-text">ZONE DELETION</span>
          </a>
        </li>
      </ul>
      <!-- Divider -->
      <hr class="my-3">
      <!-- Navigation -->
</ul>
    </div>
  </div>
 </div>
</nav>
<!-- Main content -->
<div class="main-content" id="panel">
 <!-- Topnav -->
 <nav class="navbar navbar-top navbar-expand navbar-dark bg-primary border-bottom">
  <div class="container-fluid">
```

```
<div class="collapse navbar-collapse" id="navbarSupportedContent">
<!-- Search form -->
<form class="navbar-search navbar-search-light form-inline mr-sm-3" id="navbar-search-main">
<div class="form-group mb-0">
<div class="input-group input-group-alternative input-group-merge">
<div class="input-group-prepend">
<span class="input-group-text"><i class="fas fa-search"></i></span>
</div>
<input class="form-control" placeholder="Search" type="text">
</div>
</div>
<button type="button" class="close" data-action="search-close" data-target="#navbar-search-main" aria-label="Close">
<span aria-hidden="true">×</span>
</button>
</form>
<!-- Navbar links -->
<ul class="navbar-nav align-items-center  ml-md-auto ">
<li class="nav-item d-xl-none">
<!-- Sideman toggler -->
<div class="pr-3 sidenav-toggler sidenav-toggler-dark" data-action="sidenav-pin" data-target="#sidenav-main">
<div class="sidenav-toggler-inner">
<i class="sidenav-toggler-line"></i>
<i class="sidenav-toggler-line"></i>
<i class="sidenav-toggler-line"></i>
</div>
</div>
</li>
<li class="nav-item d-sm-none">
<a class="nav-link" href="#" data-action="search-show" data-target="#navbar-search-main">
<i class="ni ni-zoom-split-in"></i>
```

```
          </a>
        </li>
</ul>
      <ul class="navbar-nav align-items-center  ml-auto ml-md-0 ">
        <li class="nav-item dropdown">
          <a class="nav-link pr-0" href="#" role="button" data-toggle="dropdown" aria-haspopup="true" aria-expanded="false">
            <div class="media align-items-center">
              <span class="avatar avatar-sm rounded-circle">
                <img alt="Image placeholder" src="static/images/icon.jpg">
              </span>
              <div class="media-body  ml-2  d-none d-lg-block">
                <span class="mb-0 text-sm  font-weight-bold">{{user}}</span>
              </div>
            </div>
          </a>
          <div class="dropdown-menu  dropdown-menu-right ">
            <div class="dropdown-header noti-title">
              <h6 class="text-overflow m-0">Welcome!</h6>
            </div>
            <a href="#!" class="dropdown-item">
              <i class="ni ni-single-02"></i>
              <span>My profile</span>
            </a>
            <a href="#!" class="dropdown-item">
              <i class="ni ni-settings-gear-65"></i>
              <span>Settings</span>
            </a>
            <div class="dropdown-divider"></div>
            <a href="/logout" class="dropdown-item">
              <i class="ni ni-user-run"></i>
              <span>Logout</span>
            </a>
```

```
          </div>
         </li>
        </ul>
       </div>
      </div>
    </nav>
    <!-- Header -->
    <!-- Header -->
    <div class="header bg-primary pb-6">
     <div class="container-fluid">
      <div class="header-body">
       <div class="row align-items-center py-4">
        <div class="col-lg-6 col-7">
         <h6 class="h2 text-white d-inline-block mb-0">Default</h6>
         <nav aria-label="breadcrumb" class="d-none d-md-inline-block ml-md-4">
          <ol class="breadcrumb breadcrumb-links breadcrumb-dark">
           <li class="breadcrumb-item"><a href="#"><i class="fas fa-home"></i></a></li>
           <li class="breadcrumb-item"><a href="#">Dashboards</a></li>
           <li class="breadcrumb-item active" aria-current="page">Default</li>
          </ol>
         </nav>
        </div>
        <div class="col-lg-6 col-5 text-right">
         <a href="#" class="btn btn-sm btn-neutral">Refresh</a>
        </div>
       </div>
       <!-- Card stats -->
       <div class="login text-center mt-5">
      <h1 style="color:white;"> ZONE UPDATE  </h1>
      <form action="/zoneupdate" method="post">
      <div class="msg">{{ msg }}</div>
        <br><inputtype="text"style="text-transform:uppercase"name="state"
placeholder="STATE" id="state" required><br>
```

```
        <br><inputtype="text"style="text-transform:uppercase"name="district"
placeholder="DISTRICT" id="district" required><br>

        <br><inputtype="text" style="text-transform:uppercase" name="area" placeholder="CITY"
id="city" required><br>

  <button type="submit" id="button" class="btn btn-dark"> ADD </button>

      </form>

    </div>

  <!-- Footer -->

    <footer class="footer pt-0">

      <div class="row align-items-center justify-content-lg-between">

        <div class="col-lg-6">

          <div class="copyright text-center  text-lg-left  text-muted">

            &copy; 2021 <a href="https://www.instagram.com/asuvath.in/" class="font-weight-bold ml-
1" target="_blank">@asuvath.in</a>

          </div>

        </div>

        <div class="col-lg-6">

          <ul class="nav nav-footer justify-content-center justify-content-lg-end">

            <li class="nav-item">

              <a href="/" class="nav-link" target="_blank">About Us.</a>

            </li>

          </ul>

        </div>

      </div>

    </footer>

  </div>

  </div>

  <!-- Argon Scripts -->

  <!-- Core -->

  <script src="static/vendor/jquery/dist/jquery.min.js"></script>

  <script src="static/vendor/bootstrap/dist/js/bootstrap.bundle.min.js"></script>

  <script src="static/vendor/js-cookie/js.cookie.js"></script>

  <script  src="static/vendor/jquery.scrollbar/jquery.scrollbar.min.js"></script>

  <script src="static/vendor/jquery-scroll-lock/dist/jquery-scrollLock.min.js"></script>
```

```
  <!-- Optional JS -->
  <script src="static/vendor/chart.js/dist/Chart.min.js"></script>
  <script src="static/vendor/chart.js/dist/Chart.extension.js"></script>
  <!-- Argon JS -->
  <script src="static/js/argon.js?v=1.2.0"></script>
</div>
</div>
</body>
</html>
```

TESTING :

Alert messages are a really useful way of staying in sync with the status and performance of your websites, servers and web services.

When an alert occurs in Uptrends monitoring, alert messages can be sent to operators or third-party applications. The message may be a phone (voice) message, e-mail or SMS or a (customized) message to an application. How these messages have to be sent is defined in integrations. When messages have to be sent, is organized in alert definitions .

Since it is crucial that the messages reach the operator or application, you will want to test if they work. Sending a test message works differently for different sorts of integrations. The steps for each integration sort are explained below.

Sending a test message by e-mail or SMS

1. Go to the menu item *Account* > *Operators*.
2. From the list of operators, select the one you want to test messages for.
3. Make sure that the primary e-mail and mobile phone number are filled in on the **Main** tab.
4. Click the **SEND TEST E-MAIL** or **SEND TEST SMS** button to send an e-mail or SMS respectively.

You should receive a test message following the initiation of a test.

If you're not an administrator, you can still test messages for your own account.

1. Go to the user menu at the top right and select *Change my user settings*.
2. You will see your own account information.

3. Make sure that the primary e-mail and mobile phone number are filled in. Then use the **SEND TEST E-MAIL** button and **SEND TEST SMS** button to start your test.

8.1 TEST CASE

Test Cases For ALERT Notification: Push notifications are messages or information that are sent to users who have agreed to receive them. For this, you must agree to receive the alerts. Notification means providing information. Push notifications allow you to receive alerts for text messages and social media posts even when your device's screen is locked or the app isn't open. This means you can stay connected without having to keep your apps open all the time.

```
package com.example.covid_19alertapp;
import org.junit.Test;
import static org.junit.Assert.*;
/**
 * Example local unit test, which will execute on the development machine (host).
 *
 * @see <a href="http://d.android.com/tools/testing">Testing documentation</a>
 */
public class ExampleUnitTest {
    @Test
    public void addition_isCorrect() {
        assertEquals(4, 2 + 2);
    }
}
```

USER ACCEPTANCE TESTING

A test procedure and plan developed for the acceptance of the facility from the contractor. This test procedure describes the individual testing methods and results that must be met for individual components of the facility to be accepted, such as the testing of concrete, soil analysis, and the level of contamination. Acceptance of the individual components must be completed prior to final acceptance.

9. RESULTS

Tests have been carried out in various containment zones across West Bengal for the validation of the Android application. The identified containment zones chosen for the testing of the application were visited one by one. Various containment zones identified for conducting the test, the date, time of entry, time of receiving the notification alerts upon entering**.** It is highlighted that the application sends notification alerts within 5–8 seconds on entering.

10. ADVANTAGE AND DISADVANTAGE

Advantage

- **S**end and Deliver Emergency Alerts Faster.
- Improve Visibility of Emergency Alerts.
- Provide clear and Consistent Communication.
- Improve Emergency Response Plans and Processes
- Maintain your compliance
- Disaster Resilient Communication

Disadvantage

- Loss of phone services
- Problem with User compliance
- Automatic with Detection may not always work.

11. CONCLUSION

The application provides an efficient way of showing the identified Covid-19 containment zones to the users in a Google map. With the alarming increase of Covid-19 affected cases throughout the world, this developed application can be employed as a tool for creating further social awareness among the people. This application further tracks the user's location and checks whether it is present in the list of identified containment zones. It sends separate notification alerts to the user on entering. The developed android application further extracts the IMEI Number of the trespasser in the containment zones which can be useful to the local police to track and identify people who are frequently trespassing the containment zones. Thereby this application identifies the containment zones and highlights the need for taking further precautionary measures for combating Covid-19. The application has been tested in various locations and has been found to yield accurate results.

The application can be further used for many purposes like maritime and forest safety to prevent users from entering restricted areas.

12 .FUTURE SCOPE

Medical Alert System Market Report covers the information, including: shipment, value, income, net benefit, business appropriation and so forth, this information enables the buyer to think about the contenders better. This report additionally covers every one of the districts and nations of the world, which demonstrates a regional advancement status, including market size, volume and esteem, and also value information.

The research report focuses on the leading competitors of the Medical Alert System Market and provides information such as the company overview, product portfolio, key developments, price, cost, value, volume, revenue, capacity, production, and contact information. Upstream raw materials and equipment and downstream demand analysis have also been carried out in this report.

13 APPENDIX

SOURCE CODE

Activities

appadresspackagejava

```
com.example.containmentzonealertingapplication.activities;

import androidx.annotation.NonNull;

import androidx.fragment.app.FragmentActivity;

import android.content.Context;

import android.content.Intent;

import android.location.Location;

import android.location.LocationManager;

import android.net.wifi.WifiManager;

import android.os.Bundle;

import android.util.Log;

import android.view.View;

import android.widget.Button;

import android.widget.TextView;

import android.widget.Toast;

import com.example.containmentzonealertingapplication.R;

import com.example.containmentzonealertingapplication.extras.AddressReceiver;

import com.example.containmentzonealertingapplication.extras.Internet;

import     com.example.containmentzonealertingapplication.extras.LogTags;
```

```
import com.google.android.gms.common.api.Status;
import      com.google.android.gms.maps.CameraUpdateFactory;
import com.google.android.gms.maps.GoogleMap;
import      com.google.android.gms.maps.OnMapReadyCallback;
import  com.google.android.gms.maps.SupportMapFragment;
import com.google.android.gms.maps.model.LatLng;
import     com.google.android.gms.maps.model.Marker;
import com.google.android.gms.maps.model.MarkerOptions;
import  com.google.android.libraries.places.api.Places;
import com.google.android.libraries.places.api.model.Place;
import com.google.android.libraries.places.api.model.TypeFilter;
import com.google.android.libraries.places.api.net.PlacesClient;
import     com.google.android.libraries.places.widget.AutocompleteFragment;
import com.google.android.libraries.places.widget.AutocompleteSupportFragment;
import com.google.android.libraries.places.widget.listener.PlaceSelectionListener;
import java.util.Arrays;
public class AddressPickerMapsActivity extends FragmentActivity implements
 OnMapReadyCallback,
        GoogleMap.OnMyLocationButtonClickListener,
        GoogleMap.OnMyLocationClickListener,
        GoogleMap.OnMapLongClickListener {
    private GoogleMap mMap;
    private Button confirmButton;
```

```
    private Marker homeMarker = null;

    // home address location

    Location pickedLocation;

   // places api client

  PlacesClient placesClient;

  @Override

   protected void onCreate(Bundle savedInstanceState) {

        super.onCreate(savedInstanceState);

        setContentView(R.layout.activity_address_picker_maps);

        // Obtain the SupportMapFragment and get notified when the map is ready
SupportMapFragmentmapFragment=(SupportMapFragment)
getSupportFragmentManager()

                .findFragmentById(R.id.map);

        mapFragment.getMapAsync(this);

        if(!Internet.isInternetAvailable(this)) {

         // no internet, map not visible

       Toast.makeText(this, "No internet! Failed to load map.", Toast.LENGTH_LONG)
.show(); TextView textView = findViewById(R.id.userHelperText);

            textView.setText(getString(R.string.map_no_internet_text));    }

  initPlacesApi(); confirmButton = findViewById(R.id.confirm_button); }

private void initPlacesApi() {

Places.initialize(getApplicationContext(), getString(R.string.google_maps_key));

        placesClient = Places.createClient(this);
```

```
 // initialize fragment
 AutocompleteSupportFragment autocompleteFragment =
  (AutocompleteSupportFragment)
getSupportFragmentManager().findFragmentById(R.id.autocomplete_fragment);
  // specify place type (find out more)
  autocompleteFragment
            .setPlaceFields(Arrays.asList(Place.Field.NAME, Place.Field.LAT_LNG))
            .setCountries("BD")
            .setTypeFilter(TypeFilter.GEOCODE);
    // place selection listener
      autocompleteFragment.setOnPlaceSelectedListener(new PlaceSelectionListener() {
        @Override
        public void onPlaceSelected(@NonNull Place place) {
      // move camera to place
       Map.moveCamera(CameraUpdateFactory.newLatLngZoom(place.getLatLng(),
16.0f));Log.d(LogTags.Map_TAG,"onPlaceSelected:placeselected=
"+place.getName()+" "+place.getLatLng());
  }
@Override
 public void onError(@NonNull Status status) {
 Toast.makeText(AddressPickerMapsActivity.this,"pleasetryagain",
Toast.LENGTH_LONG) .show();
 Log.d(LogTags.Map_TAG, "onError: place selection error = "+status.toString())
  }
```

```
});
}
@Override
   public void onMapReady(GoogleMap googleMap) {
       mMap = googleMap;
   // Add a marker in Dhaka and move the camera
       LatLng dhaka = new LatLng(23.7805733, 90.2792376);
       mMap.moveCamera(CameraUpdateFactory.newLatLngZoom(dhaka, 10.0f));
   // check if all are needed
       mMap.setMyLocationEnabled(true);
       mMap.getUiSettings().setMyLocationButtonEnabled(true);
     mMap.setOnMyLocationClickListener(this);
     mMap.setOnMyLocationButtonClickListener(this);
     mMap.setOnMapLongClickListener(this)
     Log.d(LogTags.Map_TAG, "onMapReady: map ready");
   }
   @Override
   public void onMapLongClick(LatLng latLng) {
       /*
       location selected by long press on map
       ask user to confirm
        */Log.d(LogTags.Map_TAG,"onMapLongClick:markerat = "+latLng.toString());
```

```
        pickedLocation = new Location(getLocalClassName());
        pickedLocation.setLatitude(latLng.latitude);
        pickedLocation.setLongitude(latLng.longitude);
        if(homeMarker!=null){
         homeMarker.remove();
     }
 homeMarker=mMap.addMarker(new
MarkerOptions().position(latLng).title("Home"));
  Toast.makeText(
    this,
    "press 'Confirm' to confirm or select another",
      Toast.LENGTH_LONG
       ).show();
  confirmButton.setEnabled(true);
    }
    @Override
    public boolean onMyLocationButtonClick() {
        /*
        notify user if location and/or wifi is inactive
         */String toastText = "";
        if(!wifiEnabled() && !locationEnabled())
            toastText = "Turn On both WiFi & Location";
        else if(!locationEnabled())
```

```
        toastText = "Turn On Location";
    else if(!wifiEnabled())
        toastText = "Turn On WiFi" if(!toastText.equals(""))
        Toast.makeText(this
            , toastText + " to show your location"
            , Toast.LENGTH_LONG)
            .show();
 return false;
 }
 @Override
  public void onMyLocationClick(@NonNull Location location) {
  if(location.getAccuracy()>150)
        Toast.makeText(
         this,
            "Location Accuracy is LOW. press again please!"+location,
Toast.LENGTH_SHORT ).show();
  }
  public boolean wifiEnabled(){
    WifiManager wifi = (WifiManager) getApplicationContext()
          .getSystemService(Context.WIFI_SERVICE);
    return wifi.isWifiEnabled();
   }
 public boolean locationEnabled(){
```

```
 LocationManagerlocationManager=(LocationManager)
getSystemService(Context.LOCATION_SERVICE);

 return locationManager.isProviderEnabled(LocationManager.GPS_PROVIDER) &&
locationManager.isProviderEnabled(LocationManager.NETWORK_PROVIDER);

 }

 public void confirmClicked(View view) {

       /*

       take this location and set it as home address

        */

 Log.d(LogTags.Map_TAG,"confirmClicked:locationtaken=
"+pickedLocation.toString());

 Toast.makeText(this, "Your home location was saved!", Toast.LENGTH_SHORT)

 .show();

 // send data to parent activity

       Intent resultIntent = new Intent();

       resultIntent.putExtra("latitude-longitude",

             pickedLocation.getLatitude()+","+pickedLocation.getLongitude());

       setResult(RESULT_OK, resultIntent);

       finish();

 }

}
```

GITHUB LINK→https://github.com/IBM-EPBL/IBM-Project-26284-1660024021