

**DBMS PROJECT**

**15CSE302**

**Waste Management System**

Group details

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**Frontend software details**

The frontend of the project is developed as minimalistic, elegant and interactive user interface. It is very simple to use for any kind of user.

The technology stack used for developing the front end application are as follows

1. HTML
2. CSS
3. Bootstrap
4. JavaScript

**Backend software details**

The backend of the project is running on local machine and the database is connected to AWS RDS services. Database is to store/view/retrieve the details collected from each house.

The technology stack for developing backend application are

1) NodeJS

2) ExpressJS

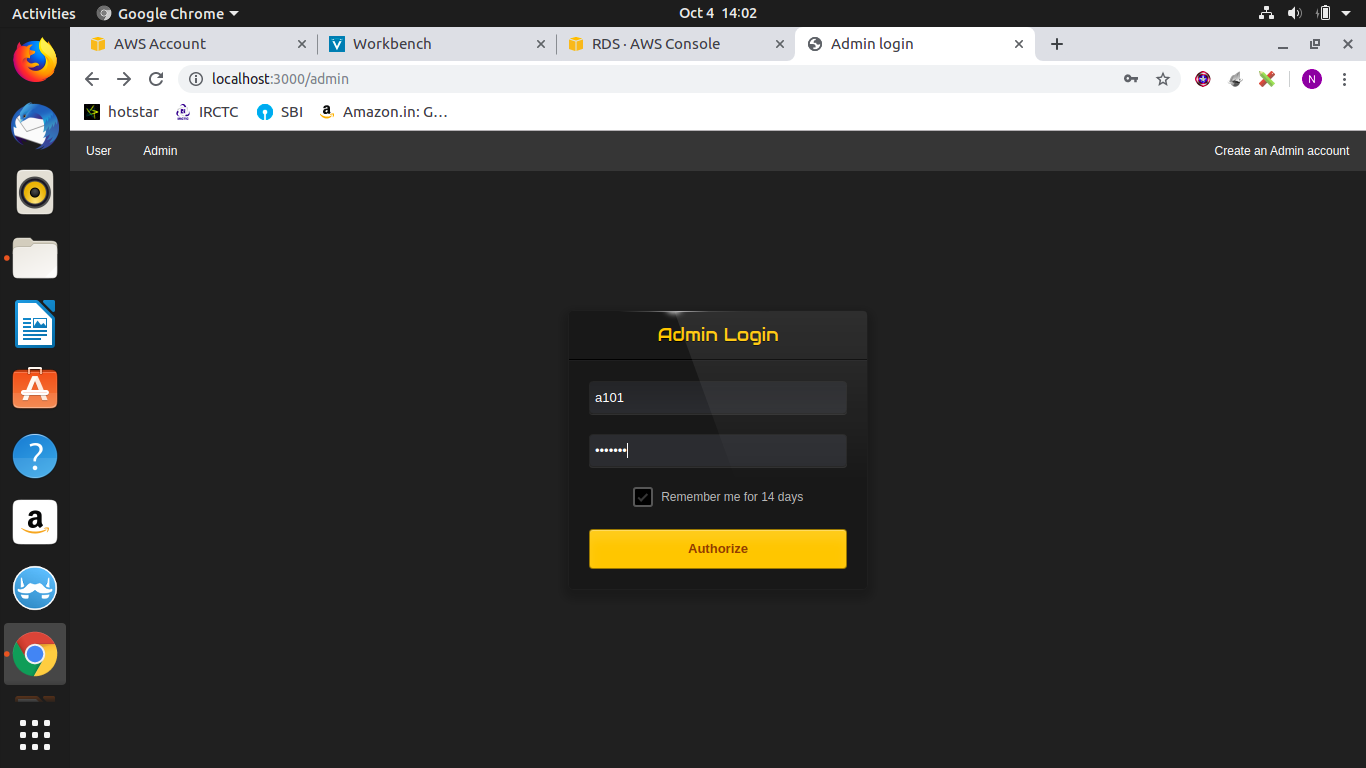
3) MySQL

4) AWS RDS

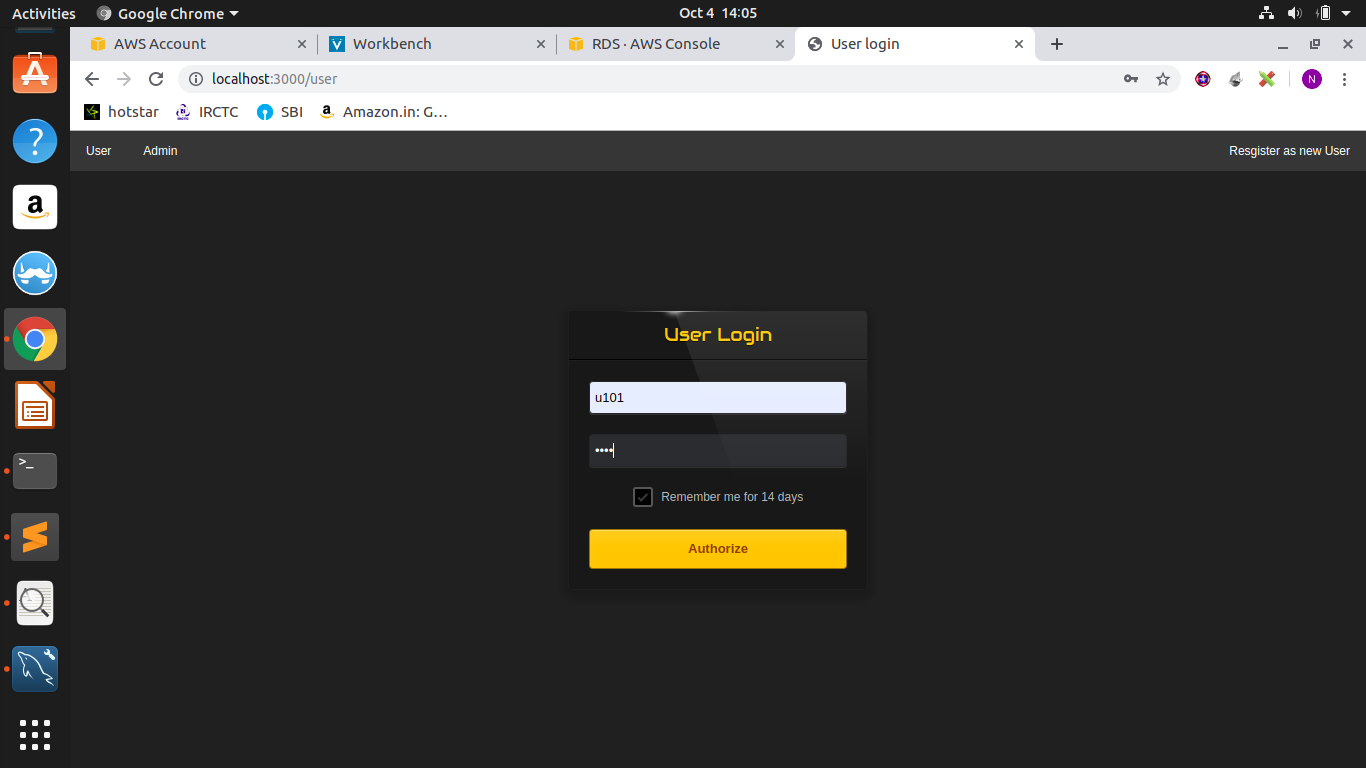
**Sample screenshots of the project**

Frontend

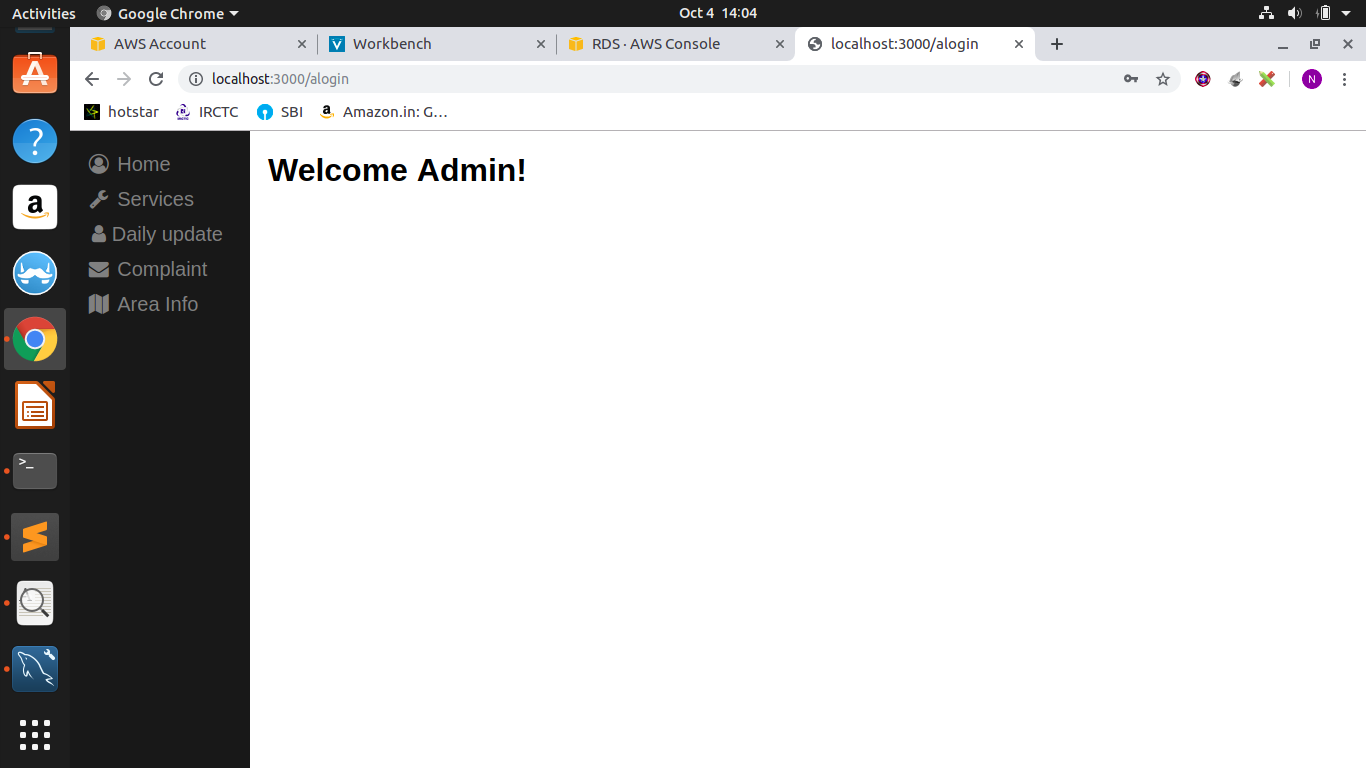
1) Admin Login panel



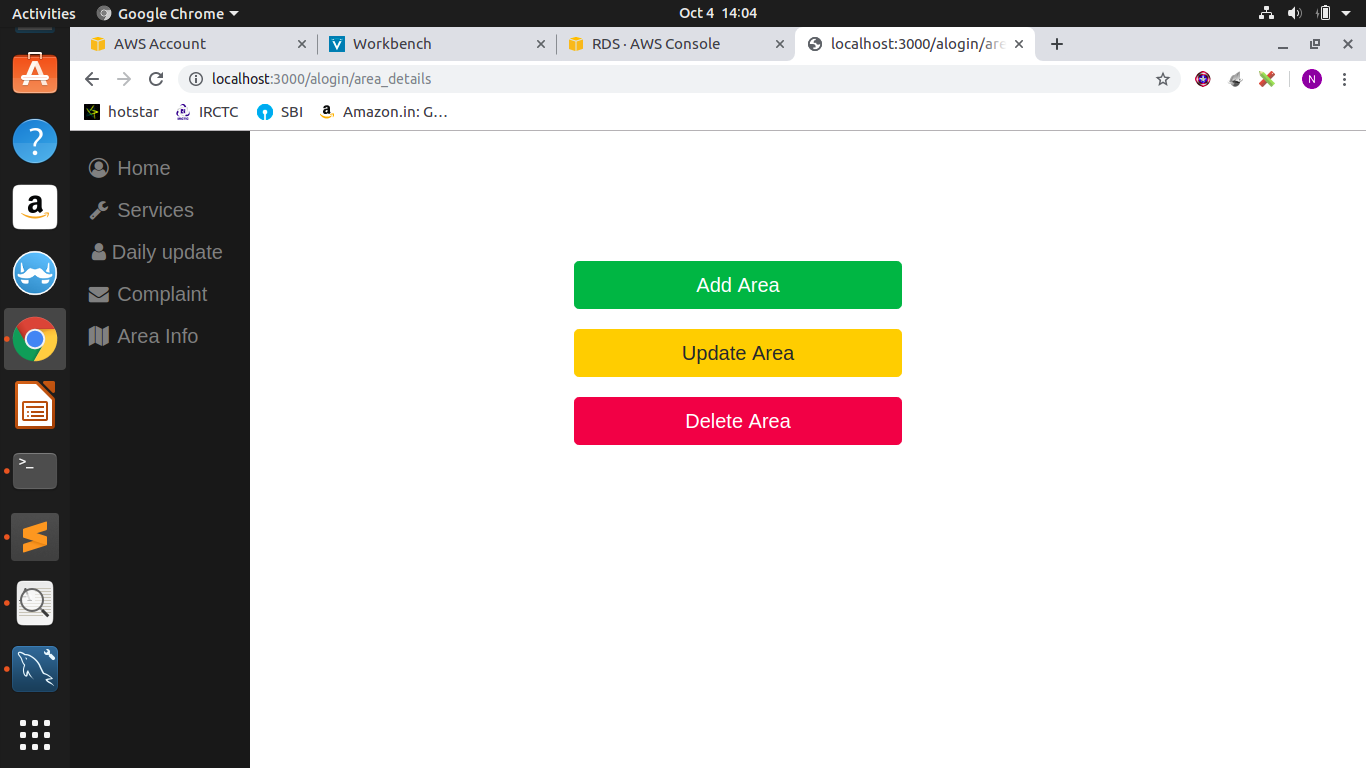
2) User Login Panel



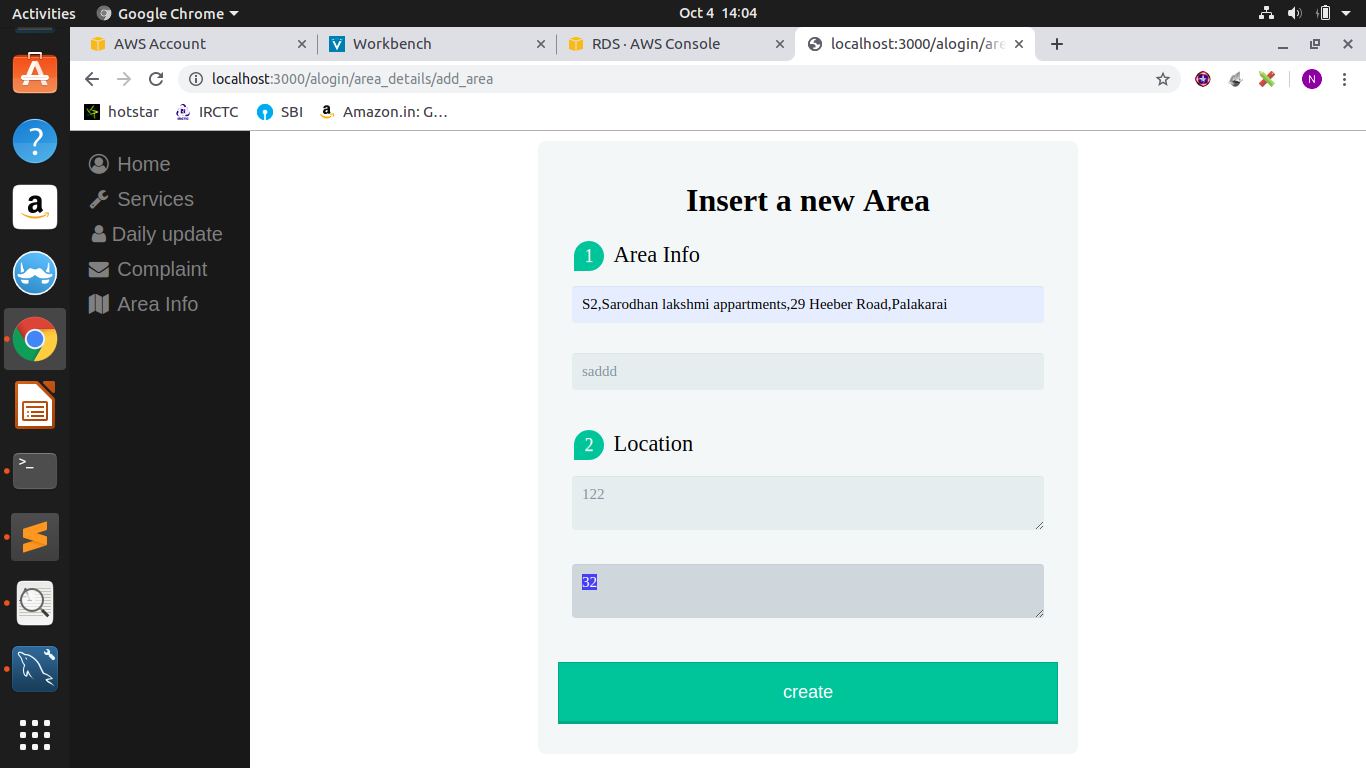
3) Admin dashboard



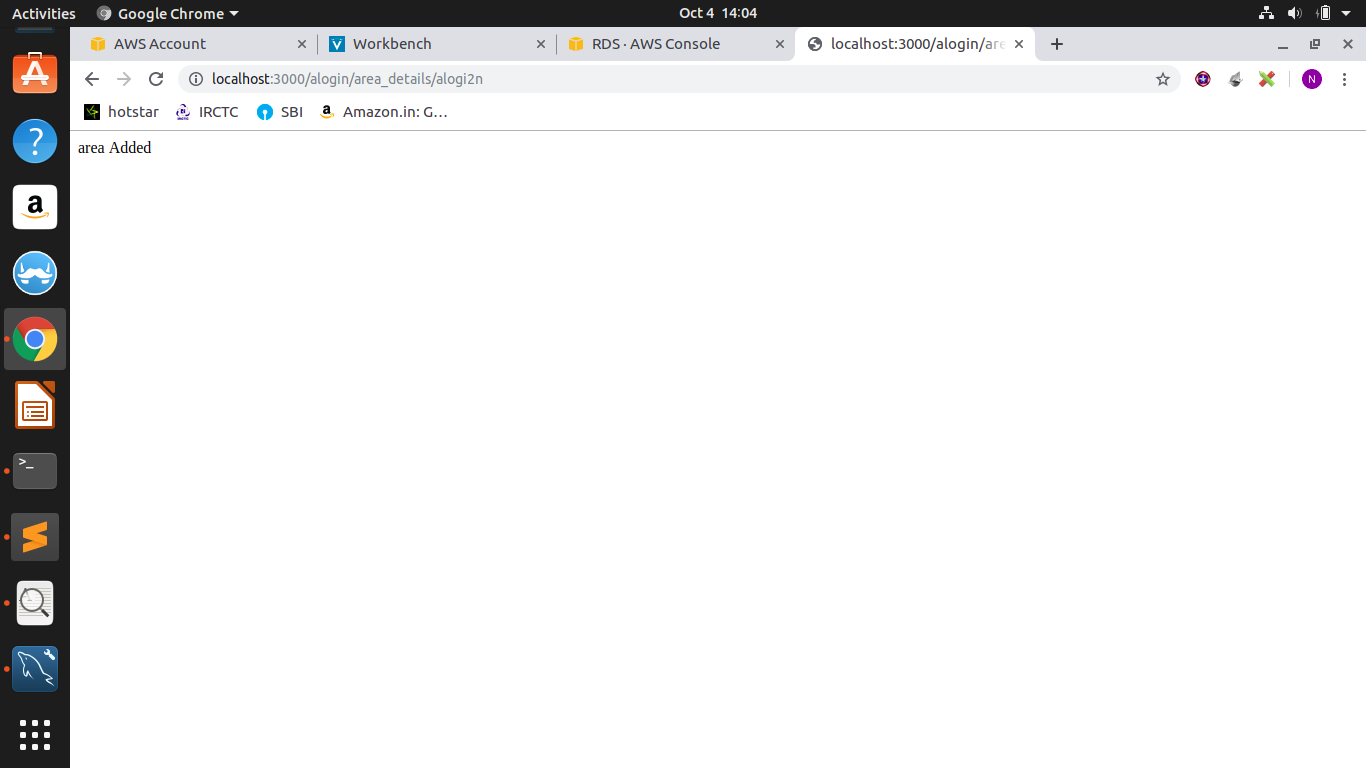
4) Admin’s control of Area details



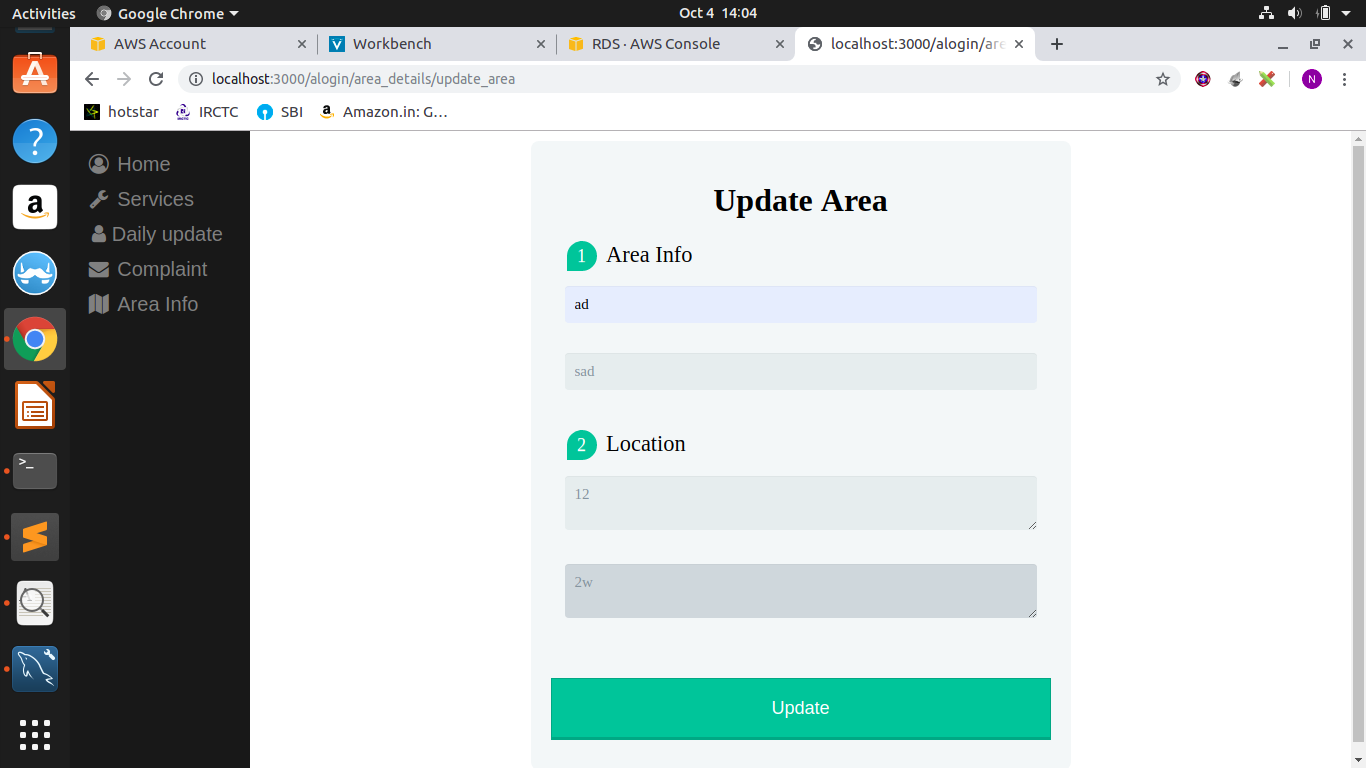
5) Adding of New area from Admin dashboard



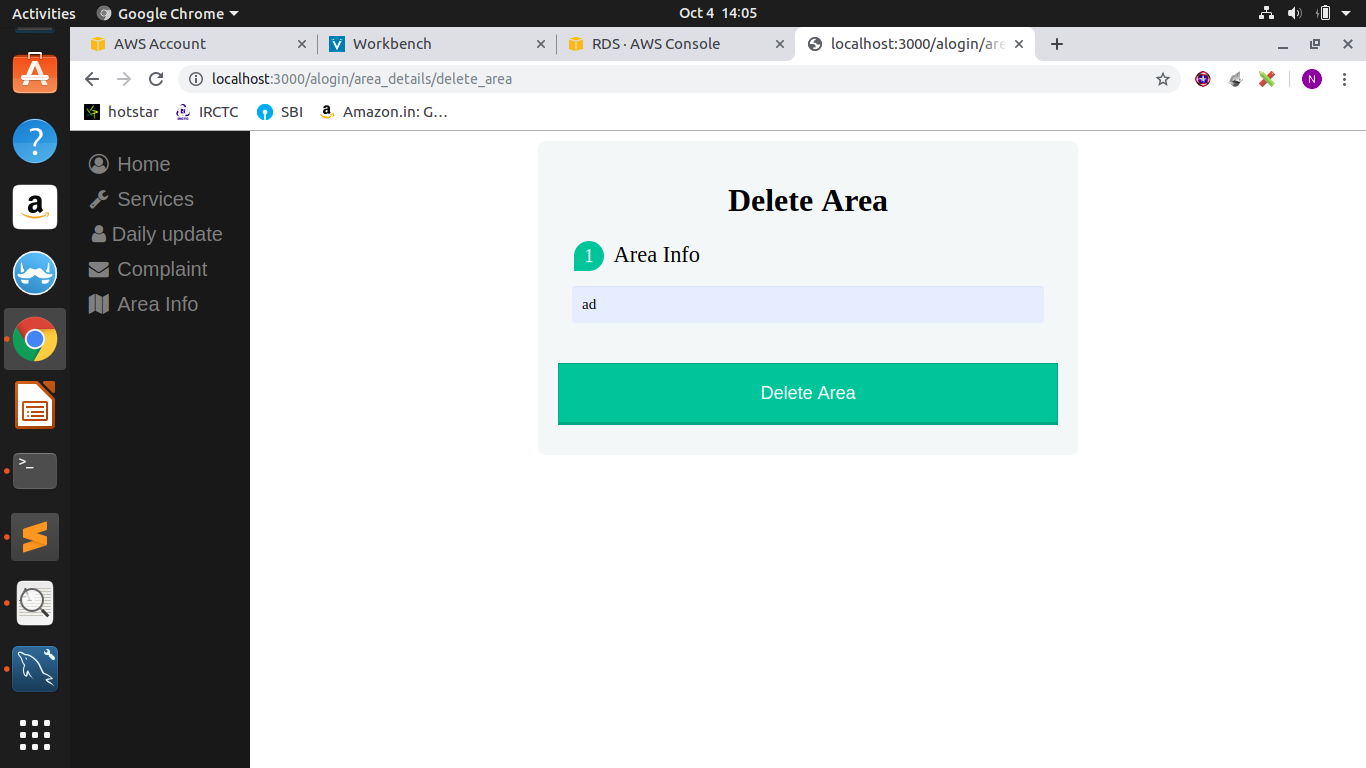
6) Response to confirm insertion of new area details.



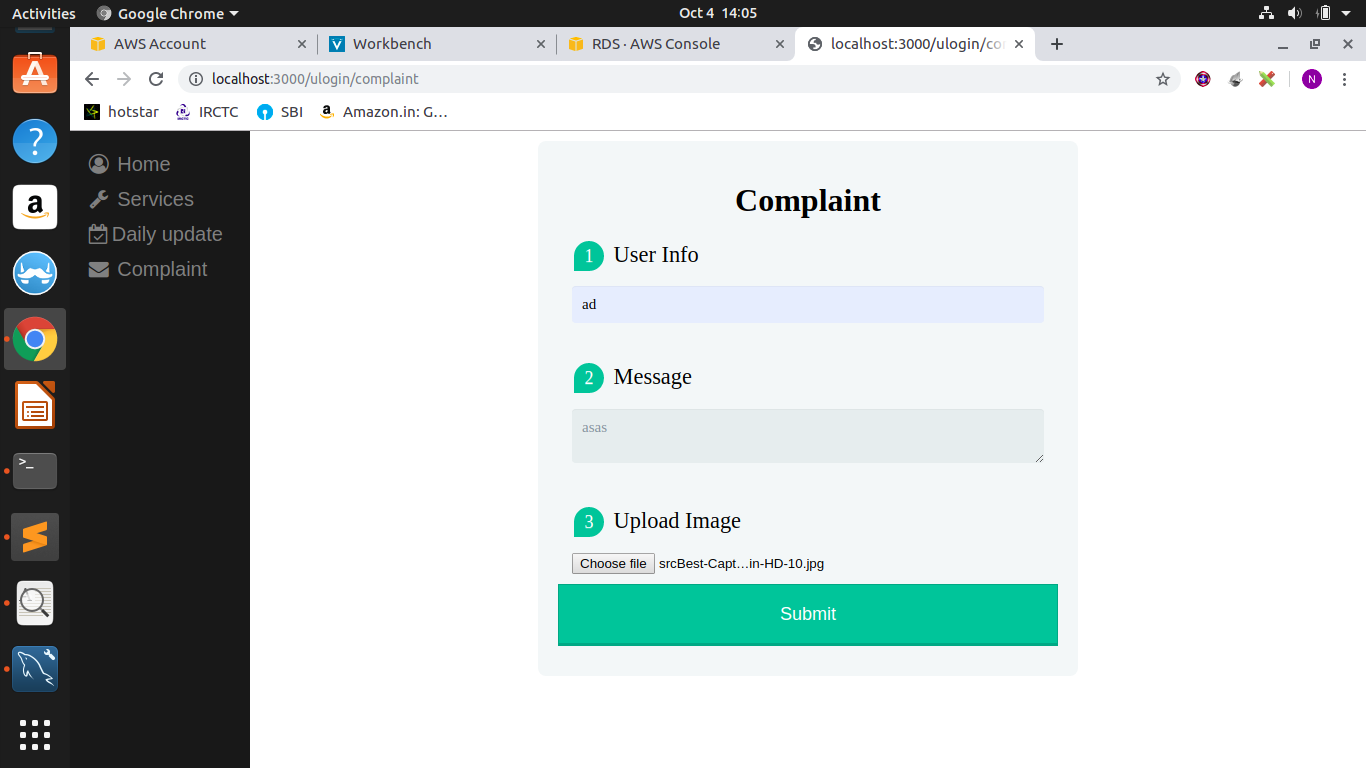
7) Updating the existing area details through form



9) Delete area details

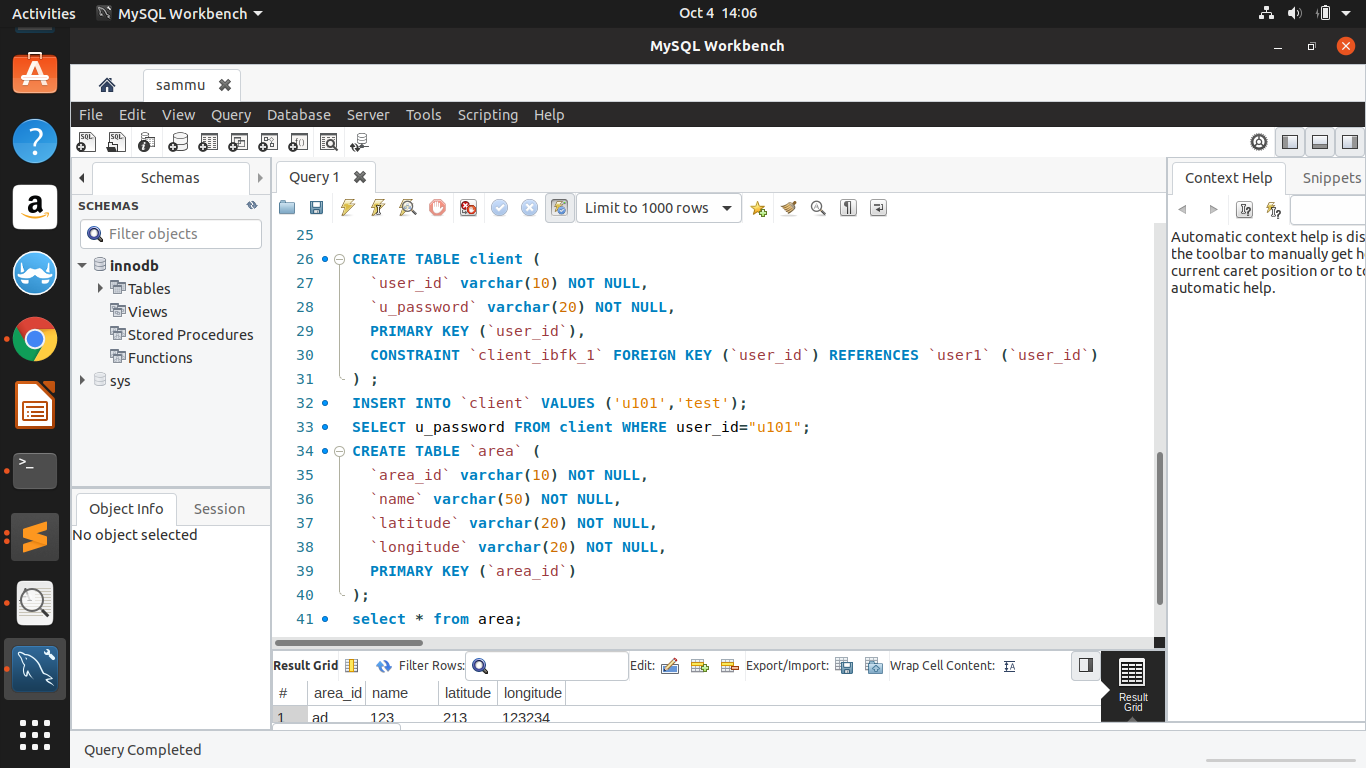


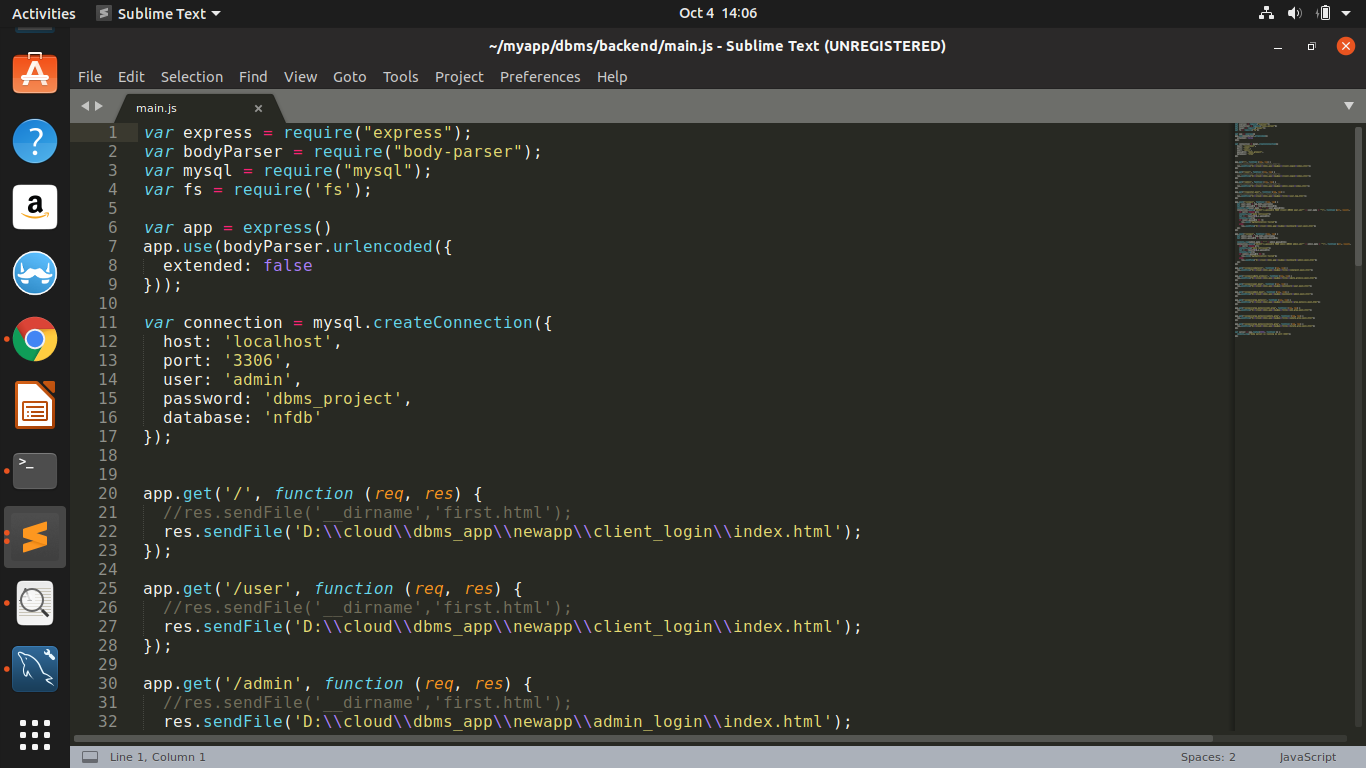
10) User registering the complaint through complaint/grievances portal.

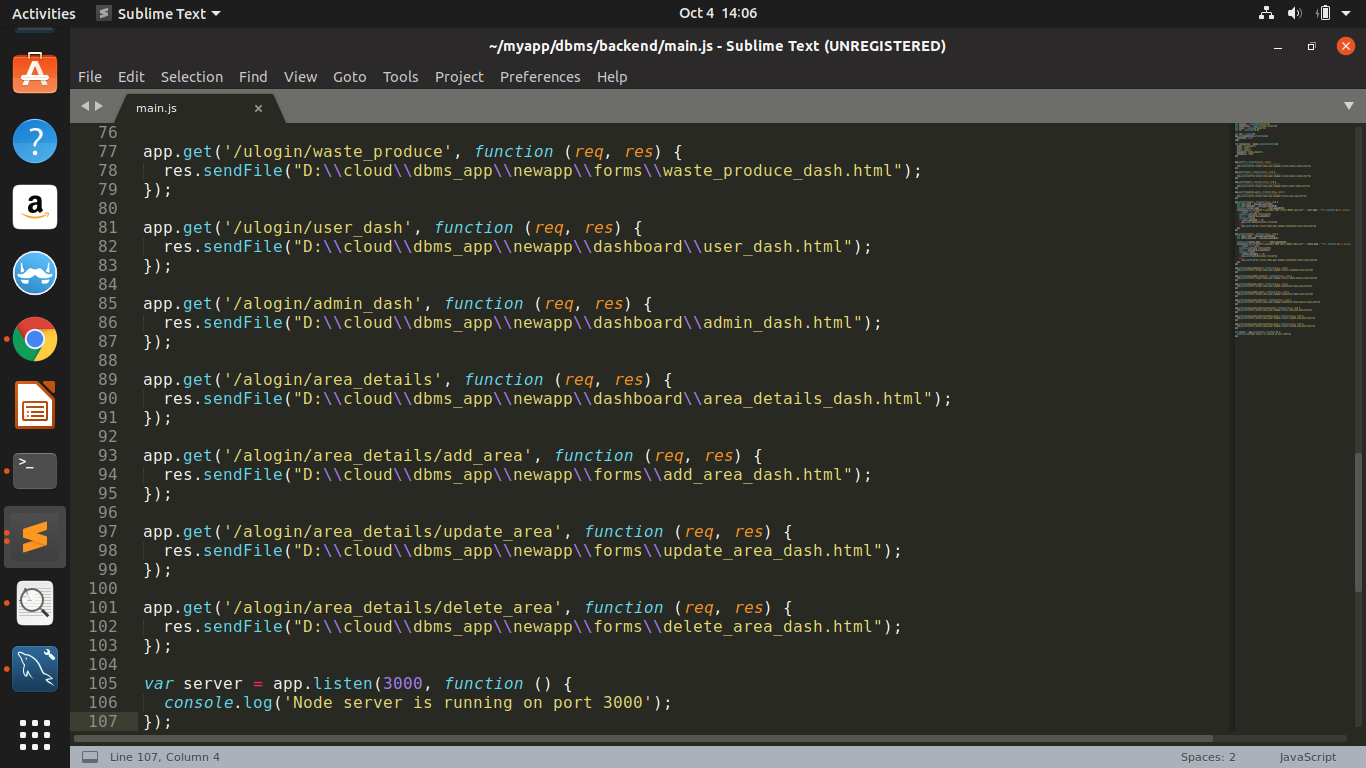


Backend

1) AWS RDS database running on Amazon cloud platform



2) Server code to handle user and admin requests



**Sample Code**

Importing necessary libraries

var express = require("express");

var bodyParser = require("body-parser");

var mysql = require("mysql");

var fs = require('fs');

Establishing SQL connection to AWS RDS

var connection = mysql.**createConnection**({

  host: "database-1.chlys9jqtfwf.us-east-1.rds.amazonaws.com", user: "nithin",

  password: "nithu1234",

  port: "3306",

  database: "innodb",

  connectTimeout: 30000,

});

Handling GET requests

app.**get**('/', function (*req*, *res*) {

*//res.sendFile('\_\_dirname','first.html');*

  res.**sendFile**('/home/nithu/myapp/dbms/index.html');

});

app.**get**('/user', function (*req*, *res*) {

*//res.sendFile('\_\_dirname','first.html');*

  res.**sendFile**('/home/nithu/myapp/dbms/index.html');

});

app.**get**('/admin', function (*req*, *res*) {

*//res.sendFile('\_\_dirname','first.html');*

  res.**sendFile**('/home/nithu/myapp/dbms/admin\_login/index.html');

});

app.**get**('/register\_user', function (*req*, *res*) {

*//res.sendFile('\_\_dirname','first.html');*

  res.**sendFile**('/home/nithu/myapp/dbms/user\_reg.html');

});

Authentication

app.**post**('/ulogin', function (*req*, *res*) {

  let user\_name = req.body.username;

  let user\_password = req.body.password;

  console.log(user\_name + " " + user\_password);

  connection.**query**('SELECT u\_password FROM client WHERE user\_id="' + user\_name + '";', function (*err*, *result*, *fields*) {

    if (err) throw err;

    console.log("data retrieved");

    let r = result[0].u\_password;

    console.log(r);

    if (user\_password != r)

      res.**send**('Authentication failed');

    else

    res.**sendFile**('/home/nithu/myapp/dbms/user\_dash.html');

  });

});

app.**post**('/alogin', function (*req*, *res*) {

  let admin\_name = req.body.adminname;

  let admin\_password = req.body.password;

  console.log(admin\_name + " " + admin\_password);

  connection.**query**('SELECT a\_password FROM admin WHERE admin\_id="' + admin\_name + '";', function (*err*, *result*, *fields*) {

    if (err) throw err;

    console.log("data retrieved");

    let r = result[0].a\_password;

    console.log(r);

    if (admin\_password != r)

      res.**send**('Authentication failed');

    else

    res.**sendFile**('/home/nithu/myapp/dbms/admin\_dash.html');

  });

});

Updating database

app.**post**('/alogin/area\_details/alogi2n', function (*req*, *res*) {

  let admin\_name = req.body.id;

  let admin\_password = req.body.field2;

  let ad1=req.body.field3;

  let ad2=req.body.field4;

 console.log("asdas");

  console.log(admin\_name + " " + admin\_password+ad1+ad2);

  var sql1 =

      "INSERT INTO area (area\_id,name,latitude,longitude) VALUES ('" +

      req.body.id +

      "','" +

      req.body.field2 +

      "','" +

      req.body.field3+

      "','" +

      req.body.field4+

      "');";

  connection.**query**(sql1, function(*err*, *result*) {

        console.log(sql1);

        if (err) throw err;

        console.log("1 record inserted");

        res.**send**("area Added");

      });

});

app.**post**('/alogin/area\_details/alogi3n', function (*req*, *res*) {

  let admin\_name = req.body.field1;

  let admin\_password = req.body.field2;

  let ad1=req.body.field3;

  let ad2=req.body.field4;

 console.log("asdas22");

  console.log(admin\_name + " " + admin\_password+"  "+ad1+"  "+ad2);

  var sql1 =

      "UPDATE area  set name='"+admin\_password+"',latitude='"+ad1+"',longitude='"+ad2+"' where area\_id='"+admin\_name+"';"

  connection.**query**(sql1, function(*err*, *result*) {

        console.log(sql1);

        if (err) throw err;

        console.log("1 Area updated");

        res.**send**("area updated");

      });

});

app.**post**('/alogin/area\_details/alogi4n', function (*req*, *res*) {

  let admin\_name = req.body.field1;

  console.log("asdas22");

  console.log(admin\_name );

  var sql1 =

      "Delete from area  where area\_id='"+admin\_name+"';"

connection.**query**(sql1, function(*err*, *result*) {

      console.log(sql1);

      if (err) throw err;

      console.log("1Area updated");

      res.**send**("area Deleted");

    });

});

Server hosting

var server = app.**listen**(3000, function () {

  console.log('Node server is running on port 3000');

});

**Conclusion**

The proposed idea for waste management is completely automated system which enables users and waste management officials to monitor the amount of waste generated from each household and track the vehicles that transports the waste from each locality to destination.

In future, Concept of green-points can be implemented that would encourage the involvement of the residents or the end users making the idea successful and helping to achieve joined efforts for the waste management and hence fulfilling the idea of Swachh Bharath.