Course Name: CMPE 272 Enterprise Software Platforms

Team Name: Packers

Team Members: Purvaben Patel, Amrapali Sarkar, Gagandeep Singh,

Dinesh Yalla, Shaily Khare

KARAF ASSIGNMENT

Abstract:

In this assignment, a client application is built which implements 10 Twitter REST APIs. Authentication in Twitter is performed using oauth. We have Nodejs at our server side in which we give REST API calls. The REST API return the data in JSON format which is parsed in Angular JS and is displayed as User Interface. The User Interface is built on Angular JS where data handling is done through node.js and Unit testing is performed in Chai Mocha. UML Diagrams and screenshots are provided for proper understanding of the application.

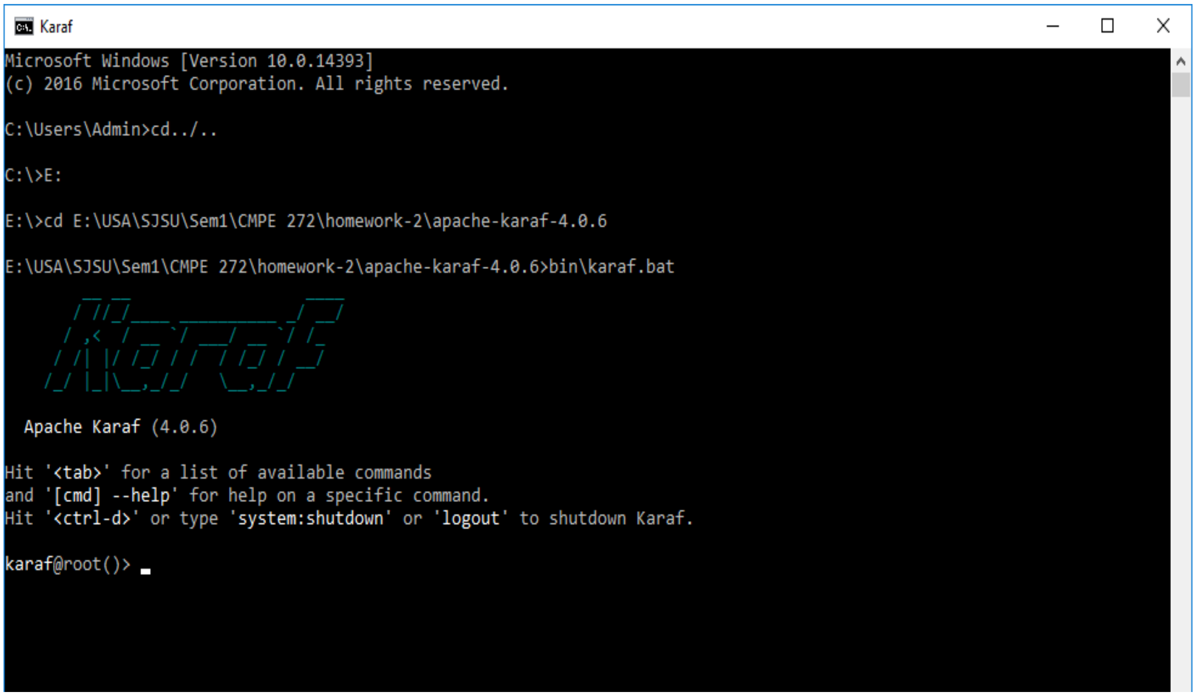
Detailed Steps:

1. KARAF

1.1 Download **apache-karaf-4.0.6** from https://karaf.apache.org/download.html and extract that .zip file.

1.2 For Karaf welcome screen :

- Open Command Prompt.
- Go to the location where your Karaf folder is located.
- Run : bin\karaf.bat

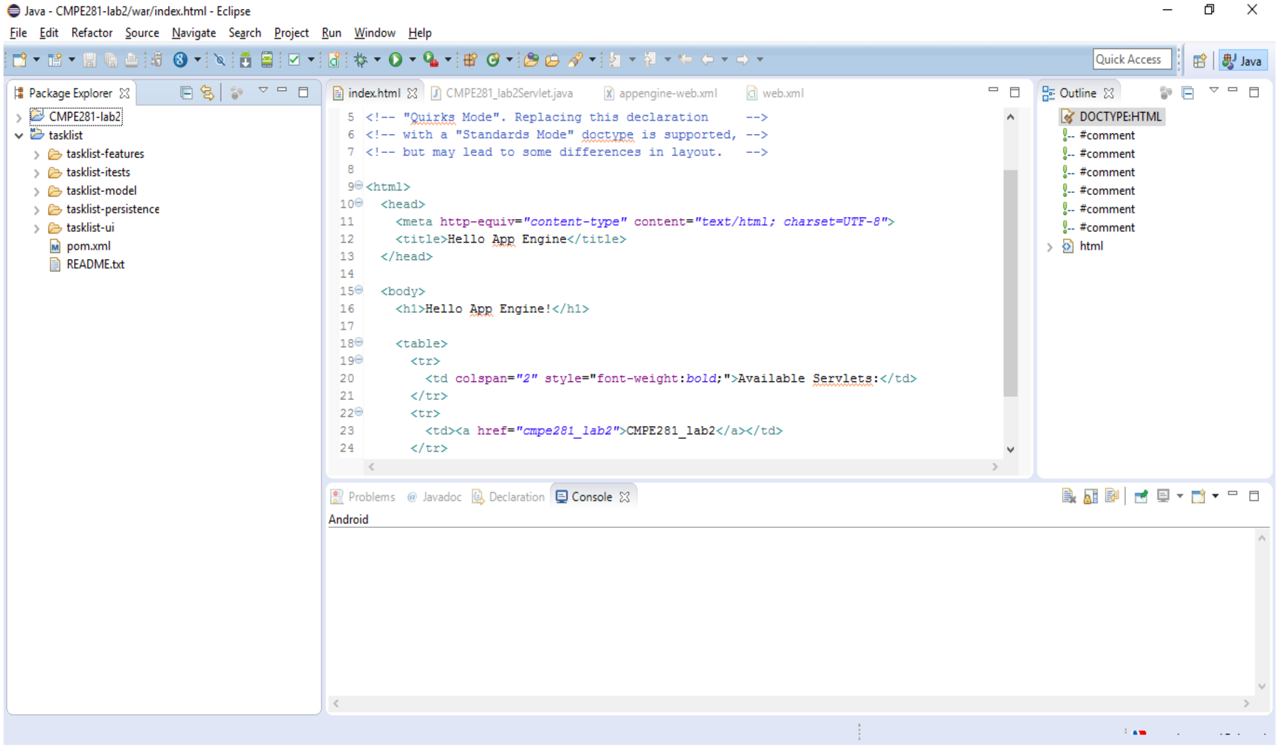


```
Microsoft Windows [Version 10.0.14393]
(c) 2016 Microsoft Corporation. All rights reserved.

C:\Users\Admin>cd../..

C:\>E:

E:\>cd E:\USA\SJSU\Sem1\CMPE 272\homework-2\apache-karaf-4.0.6

E:\USA\SJSU\Sem1\CMPE 272\homework-2\apache-karaf-4.0.6>bin\karaf.bat
        __ __                  ____
       / //_/____ __________ _/ __/
      / ,<  / __ `/ ___/ __ `/ /_
     / /| |/ /_/ / /  / /_/ / __/
    /_/ |_|\__,_/_/   \__,_/_/

  Apache Karaf (4.0.6)

Hit '<tab>' for a list of available commands
and '[cmd] --help' for help on a specific command.
Hit '<ctrl-d>' or type 'system:shutdown' or 'logout' to shutdown Karaf.

karaf@root()>
```

1.3 Download the sample project from https://github.com/cschneider/Karaf-Tutorial/zipball/master and extracting it to a directory.

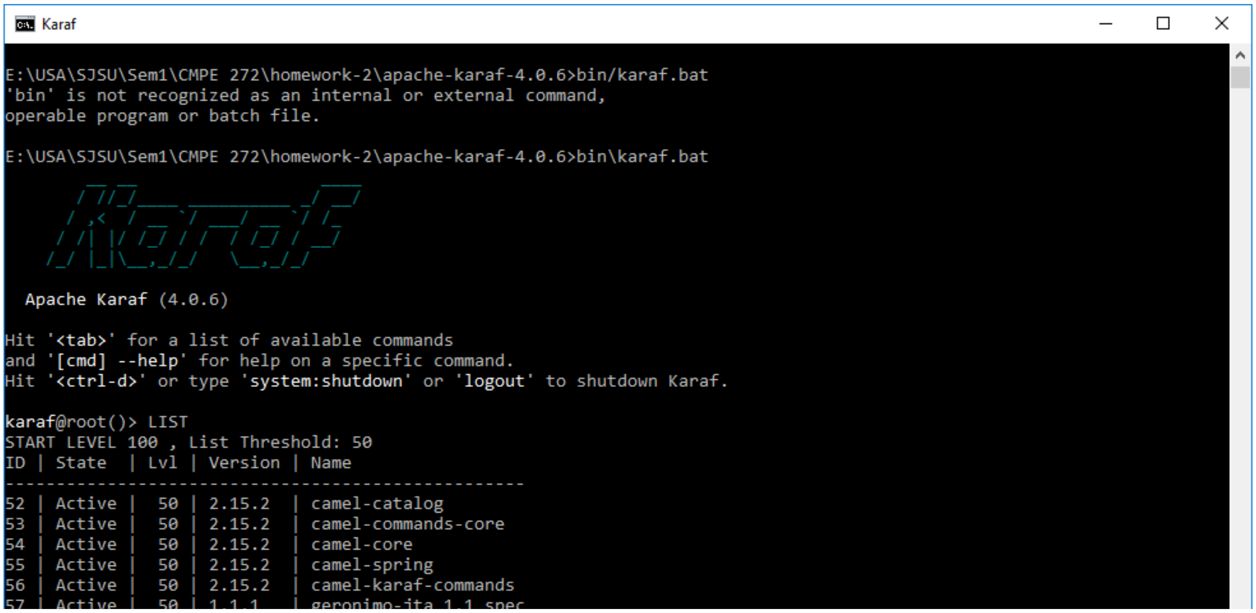
1.4 Importing the downloaded project into eclipse as:

- Open Eclipse IDE, go to Eclipse Package Explorer: Import -> Existing maven project -> Browse to the extracted directory into the task list sub directory.
- It will show all existing maven projects. Then click to import all projects with defaults.



```
<!-- "Quirks Mode". Replacing this declaration     -->
<!-- with a "Standards Mode" doctype is supported, -->
<!-- but may lead to some differences in layout.   -->

<html>
  <head>
    <meta http-equiv="content-type" content="text/html; charset=UTF-8">
    <title>Hello App Engine</title>
  </head>

  <body>
    <h1>Hello App Engine!</h1>

    <table>
      <tr>
        <td colspan="2" style="font-weight:bold;">Available Servlets:</td>
      </tr>
      <tr>
        <td><a href="cmpe281_lab2">CMPE281_lab2</a></td>
      </tr>
```

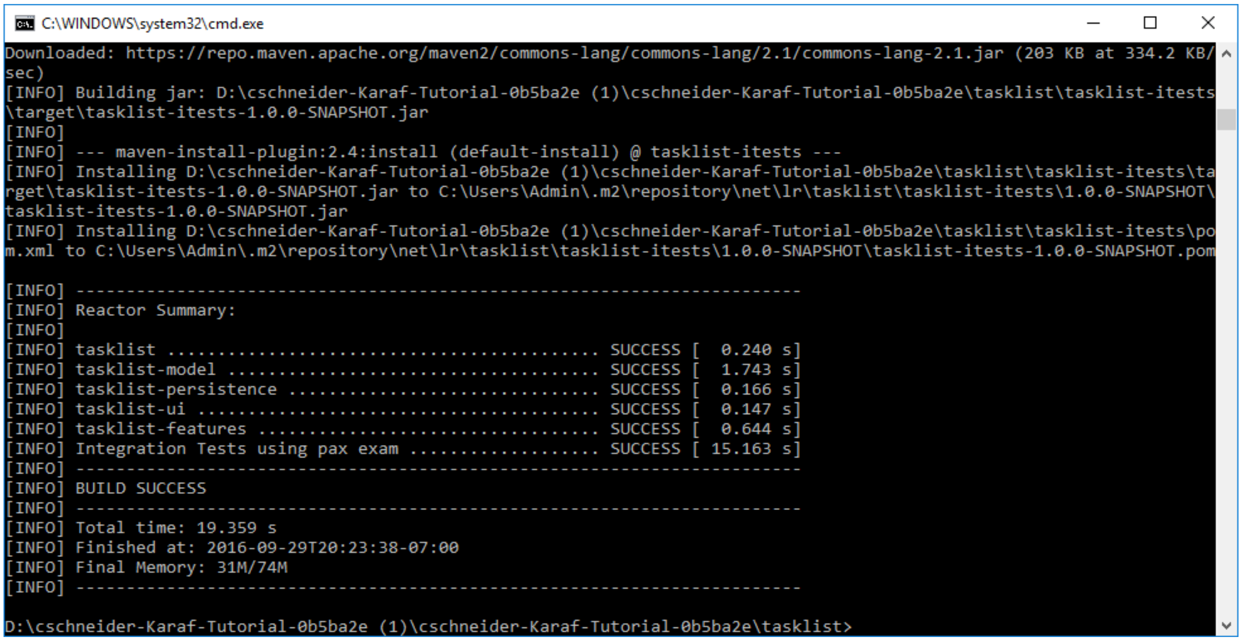
1.5 In Command Prompt run Command : LIST



```
E:\USA\SJSU\Sem1\CMPE 272\homework-2\apache-karaf-4.0.6>bin/karaf.bat
'bin' is not recognized as an internal or external command,
operable program or batch file.

E:\USA\SJSU\Sem1\CMPE 272\homework-2\apache-karaf-4.0.6>bin\karaf.bat
        __ __                  ____
       / //_/____ __________ _/ __/
      / ,<  / __ `/ ___/ __ `/ /_
     / /| |/ /_/ / /  / /_/ / __/
    /_/ |_|\__,_/_/   \__,_/_/

  Apache Karaf (4.0.6)

Hit '<tab>' for a list of available commands
and '[cmd] --help' for help on a specific command.
Hit '<ctrl-d>' or type 'system:shutdown' or 'logout' to shutdown Karaf.

karaf@root()> LIST
START LEVEL 100 , List Threshold: 50
ID | State  | Lvl | Version | Name
---------------------------------------------------
52 | Active |  50 | 2.15.2  | camel-catalog
53 | Active |  50 | 2.15.2  | camel-commands-core
54 | Active |  50 | 2.15.2  | camel-core
55 | Active |  50 | 2.15.2  | camel-spring
56 | Active |  50 | 2.15.2  | camel-karaf-commands
57 | Active |  50 | 1.1.1   | geronimo-jta_1.1_spec
```

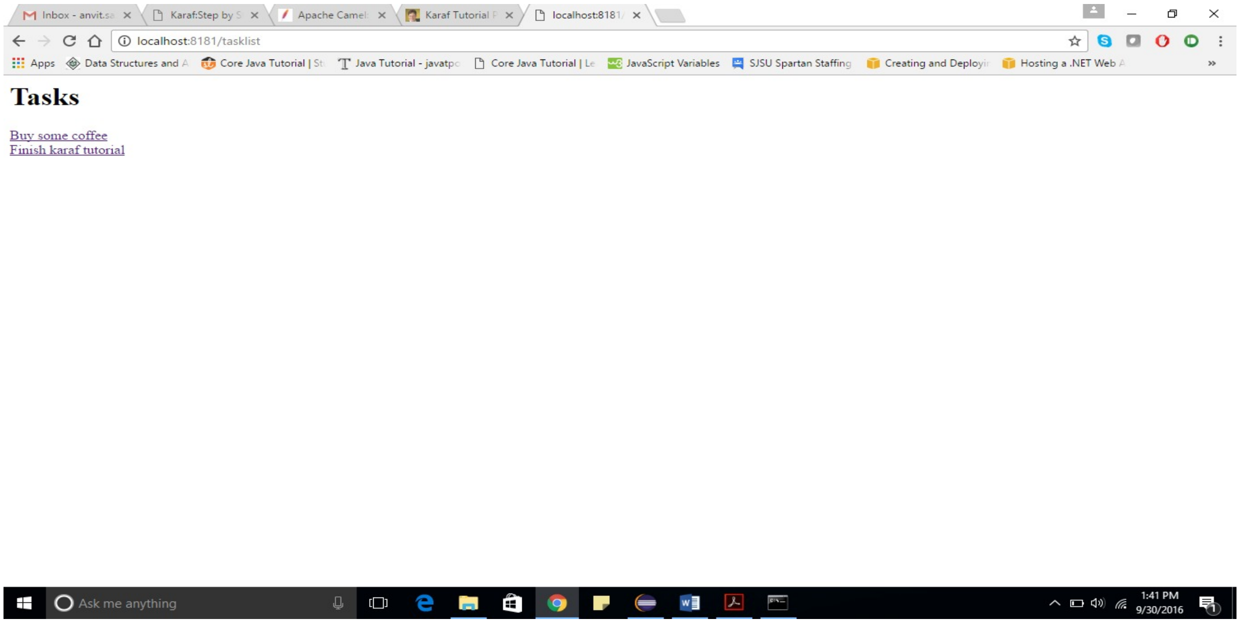
1.6 Now installing the application in karaf by using the following command in karaf command prompt as

- Run: pom.xml file using command prompt.
- Run: mvn install
- Run: feature:repo-add mvn:net.lr.tasklist/tasklist-features/1.0.0-SNAPSHOT/xml
- Run: feature:install example-tasklist-persistence example-tasklist-ui
- It shows everything is successfully installed and run.



```
Downloaded: https://repo.maven.apache.org/maven2/commons-lang/commons-lang/2.1/commons-lang-2.1.jar (203 KB at 334.2 KB/
sec)
[INFO] Building jar: D:\cschneider-Karaf-Tutorial-0b5ba2e (1)\cschneider-Karaf-Tutorial-0b5ba2e\tasklist\tasklist-itests
\target\tasklist-itests-1.0.0-SNAPSHOT.jar
[INFO]
[INFO] --- maven-install-plugin:2.4:install (default-install) @ tasklist-itests ---
[INFO] Installing D:\cschneider-Karaf-Tutorial-0b5ba2e (1)\cschneider-Karaf-Tutorial-0b5ba2e\tasklist\tasklist-itests\ta
rget\tasklist-itests-1.0.0-SNAPSHOT.jar to C:\Users\Admin\.m2\repository\net\lr\tasklist\tasklist-itests\1.0.0-SNAPSHOT\
tasklist-itests-1.0.0-SNAPSHOT.jar
[INFO] Installing D:\cschneider-Karaf-Tutorial-0b5ba2e (1)\cschneider-Karaf-Tutorial-0b5ba2e\tasklist\tasklist-itests\po
m.xml to C:\Users\Admin\.m2\repository\net\lr\tasklist\tasklist-itests\1.0.0-SNAPSHOT\tasklist-itests-1.0.0-SNAPSHOT.pom

[INFO] ------------------------------------------------------------------------
[INFO] Reactor Summary:
[INFO]
[INFO] tasklist ........................................... SUCCESS [  0.240 s]
[INFO] tasklist-model ..................................... SUCCESS [  1.743 s]
[INFO] tasklist-persistence ............................... SUCCESS [  0.166 s]
[INFO] tasklist-ui ........................................ SUCCESS [  0.147 s]
[INFO] tasklist-features .................................. SUCCESS [  0.644 s]
[INFO] Integration Tests using pax exam ................... SUCCESS [ 15.163 s]
[INFO] ------------------------------------------------------------------------
[INFO] BUILD SUCCESS
[INFO] ------------------------------------------------------------------------
[INFO] Total time: 19.359 s
[INFO] Finished at: 2016-09-29T20:23:38-07:00
[INFO] Final Memory: 31M/74M
[INFO] ------------------------------------------------------------------------

D:\cschneider-Karaf-Tutorial-0b5ba2e (1)\cschneider-Karaf-Tutorial-0b5ba2e\tasklist>
```

1.7 To view the result, start http://localhost:8181/tasklist

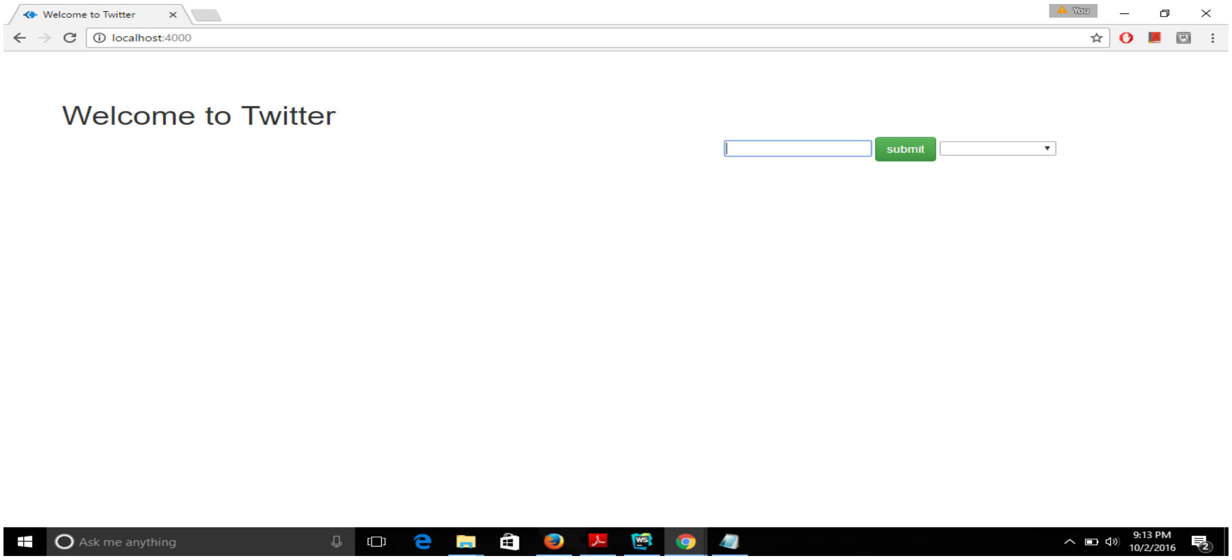


Tasks

Buy some coffee
Finish karaf tutorial

2. DESIGN:

Welcome Screen

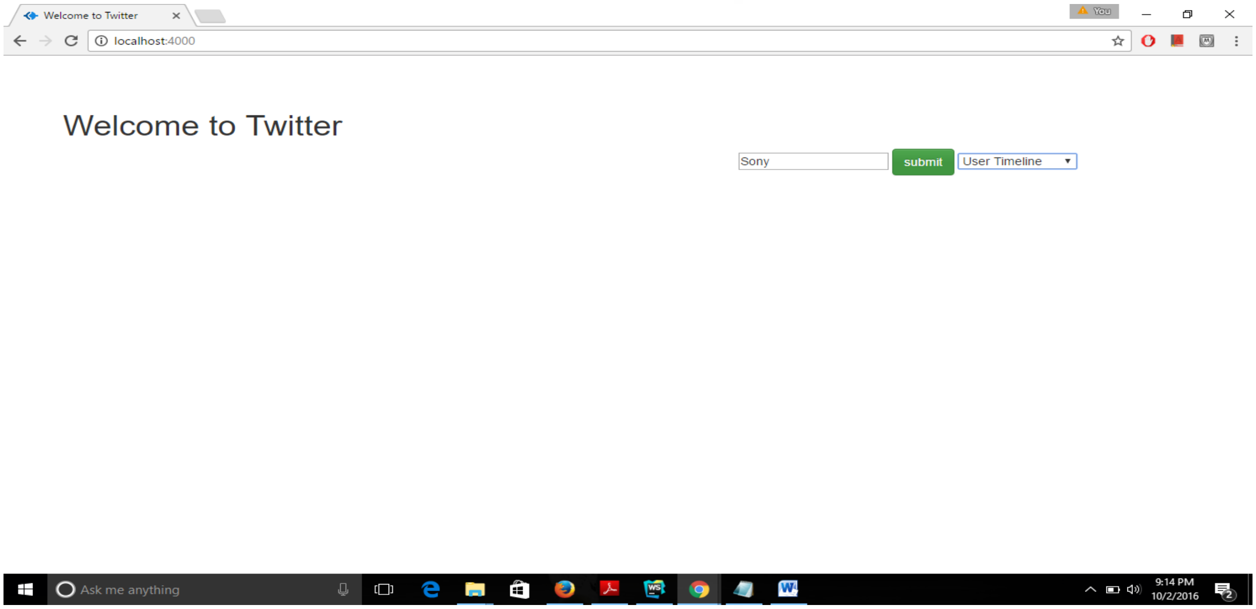


We have implemented 10 Rest APIs from twitter which have been mentioned below.

- GET statuses/user_timeline
- GET statuses/home_timeline
- POST friendships/create
- GET search/tweets
- POST statuses/update
- GET followers/ids
- GET followers/list
- GET users/search
- GET trends/place
- GET friends/list

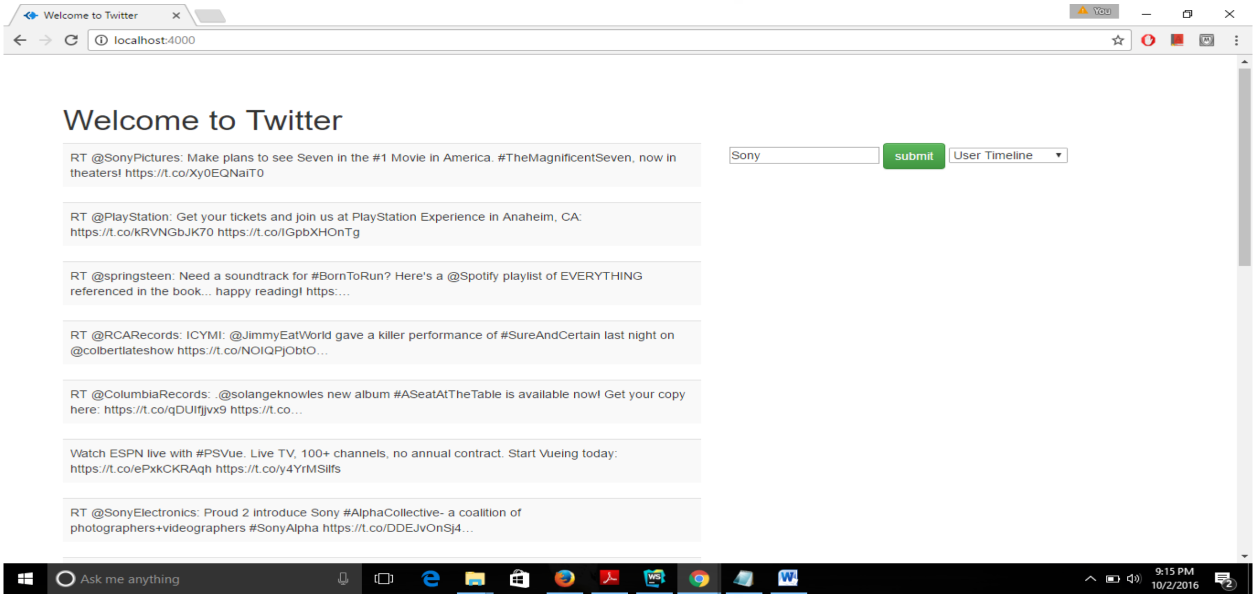
2.1 **GET statuses/user_timeline**

This API returns the most recent Tweets posted by user.



Welcome to Twitter

Sony submit User Timeline



Welcome to Twitter

Sony submit User Timeline

RT @SonyPictures: Make plans to see Seven in the #1 Movie in America. #TheMagnificentSeven, now in theaters! https://t.co/Xy0EQNaiT0

RT @PlayStation: Get your tickets and join us at PlayStation Experience in Anaheim, CA: https://t.co/kRVNGbJK70 https://t.co/IGpbXHOnTg

RT @springsteen: Need a soundtrack for #BornToRun? Here's a @Spotify playlist of EVERYTHING referenced in the book... happy reading! https:…

RT @RCARecords: ICYMI: @JimmyEatWorld gave a killer performance of #SureAndCertain last night on @colbertlateshow https://t.co/NOIQPjObtO…

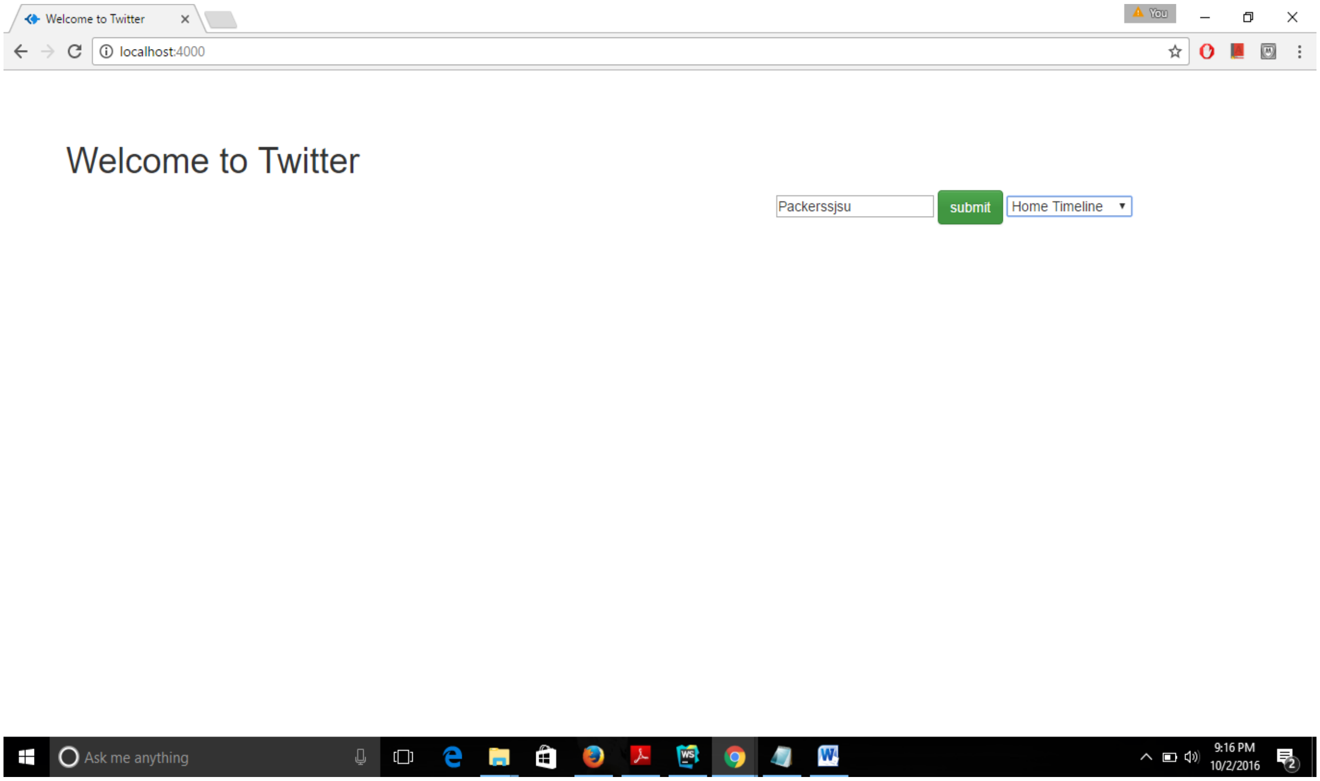
RT @ColumbiaRecords: .@solangeknowles new album #ASeatAtTheTable is available now! Get your copy here: https://t.co/qDUIfjjvx9 https://t.co…

Watch ESPN live with #PSVue. Live TV, 100+ channels, no annual contract. Start Vueing today: https://t.co/ePxkCKRAqh https://t.co/y4YrMSilfs

RT @SonyElectronics: Proud 2 introduce Sony #AlphaCollective- a coalition of photographers+videographers #SonyAlpha https://t.co/DDEJvOnSj4…

2.2 GET statuses/home_timeline

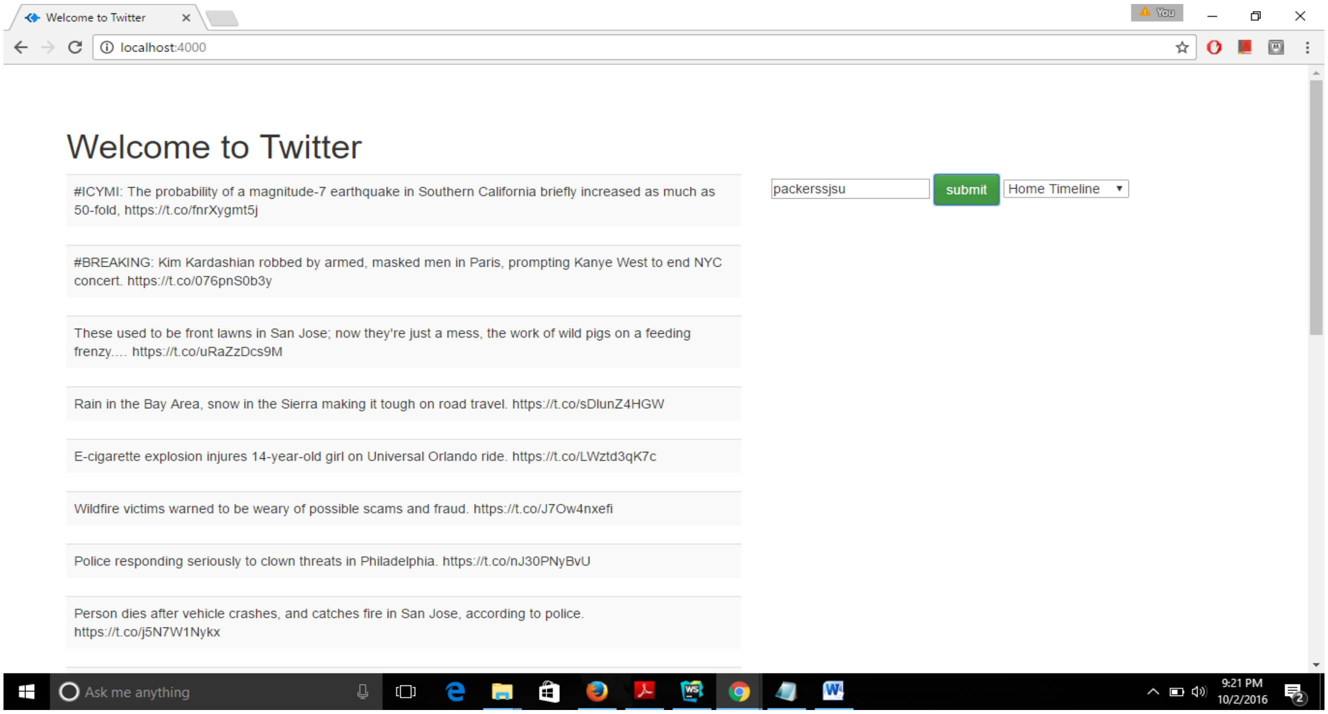
This API returns the recent Tweets posted by user and the users they follow.



Welcome to Twitter

Packerssjsu

Home Timeline



Welcome to Twitter

packerssjsu

Home Timeline

#ICYMI: The probability of a magnitude-7 earthquake in Southern California briefly increased as much as 50-fold, https://t.co/fnrXygmt5j

#BREAKING: Kim Kardashian robbed by armed, masked men in Paris, prompting Kanye West to end NYC concert. https://t.co/076pnS0b3y

These used to be front lawns in San Jose; now they're just a mess, the work of wild pigs on a feeding frenzy.... https://t.co/uRaZzDcs9M

Rain in the Bay Area, snow in the Sierra making it tough on road travel. https://t.co/sDlunZ4HGW

E-cigarette explosion injures 14-year-old girl on Universal Orlando ride. https://t.co/LWztd3qK7c

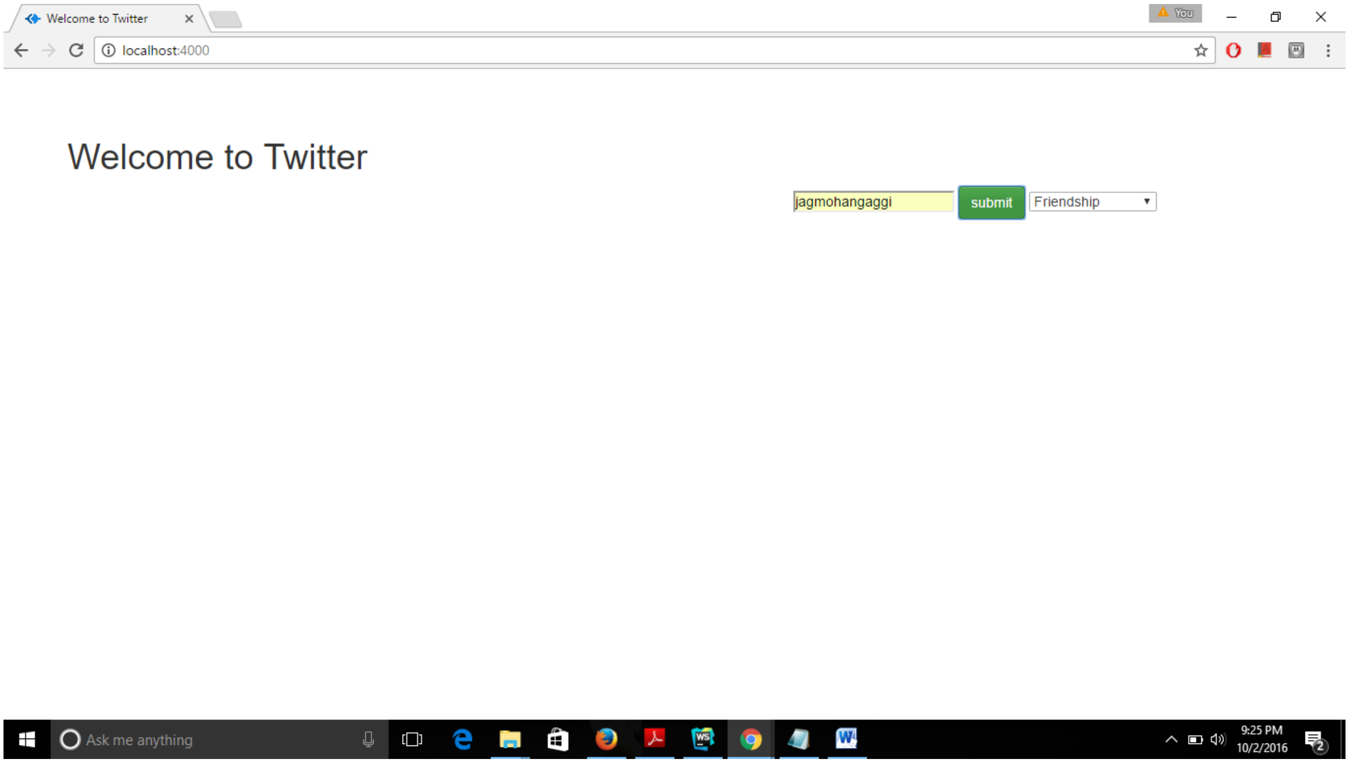
Wildfire victims warned to be weary of possible scams and fraud. https://t.co/J7Ow4nxefi

Police responding seriously to clown threats in Philadelphia. https://t.co/nJ30PNyBvU

Person dies after vehicle crashes, and catches fire in San Jose, according to police. https://t.co/j5N7W1Nykx

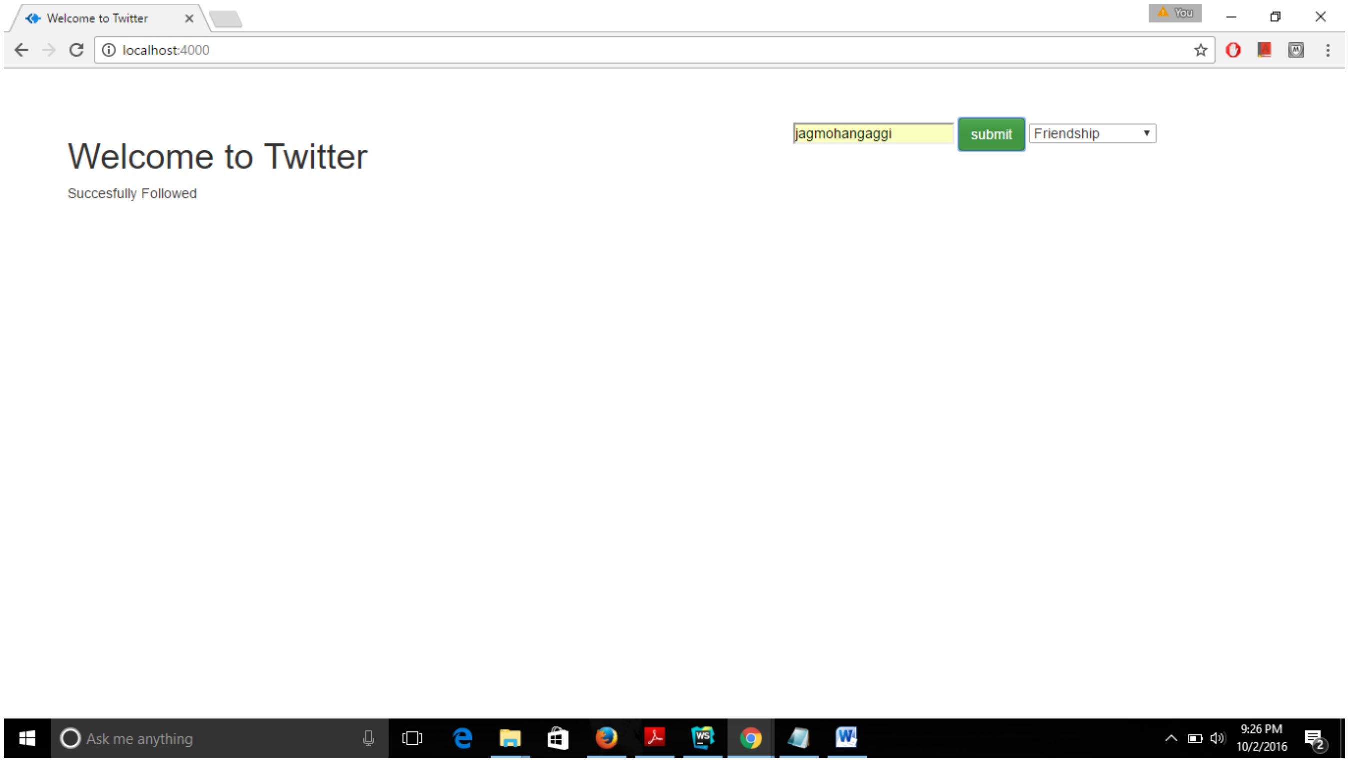
2.3 POST friendships/create

This API is to follow your friends on Twitter.



Welcome to Twitter

jagmohangaggi



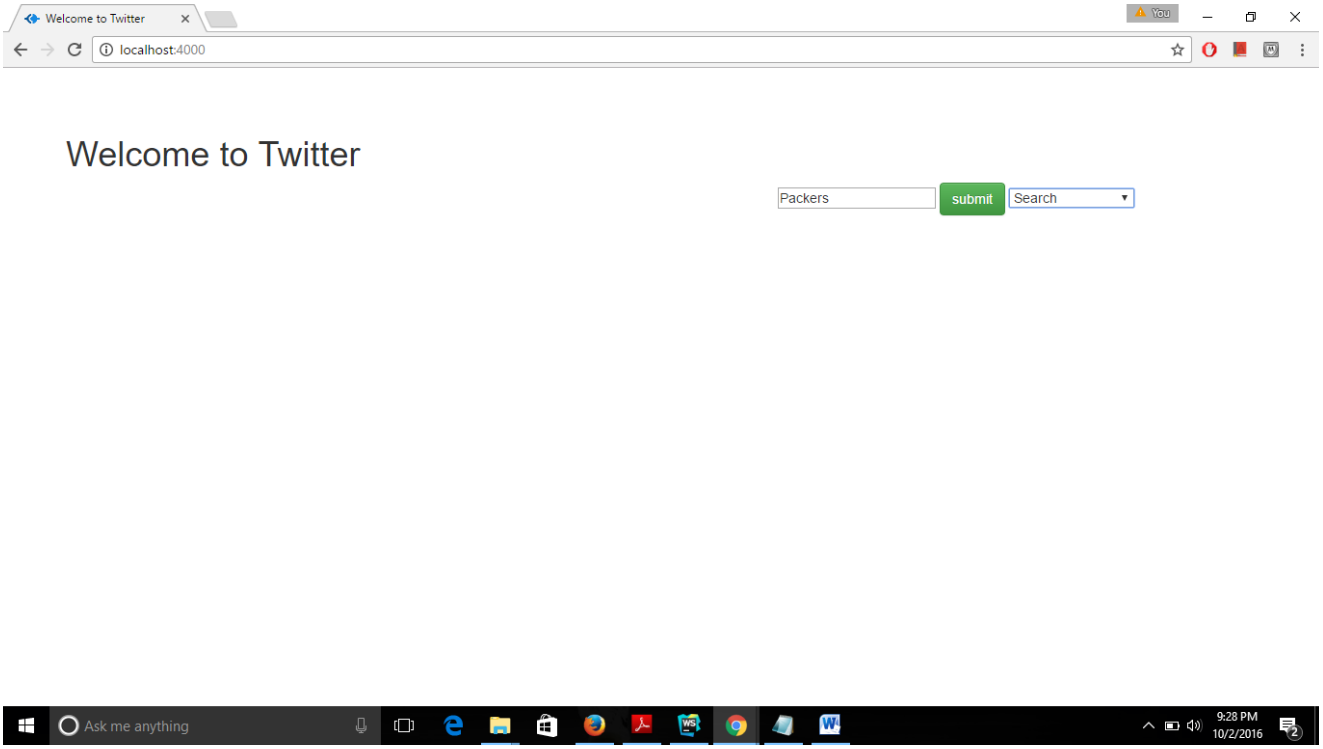
Welcome to Twitter

jagmohangaggi

Succesfully Followed

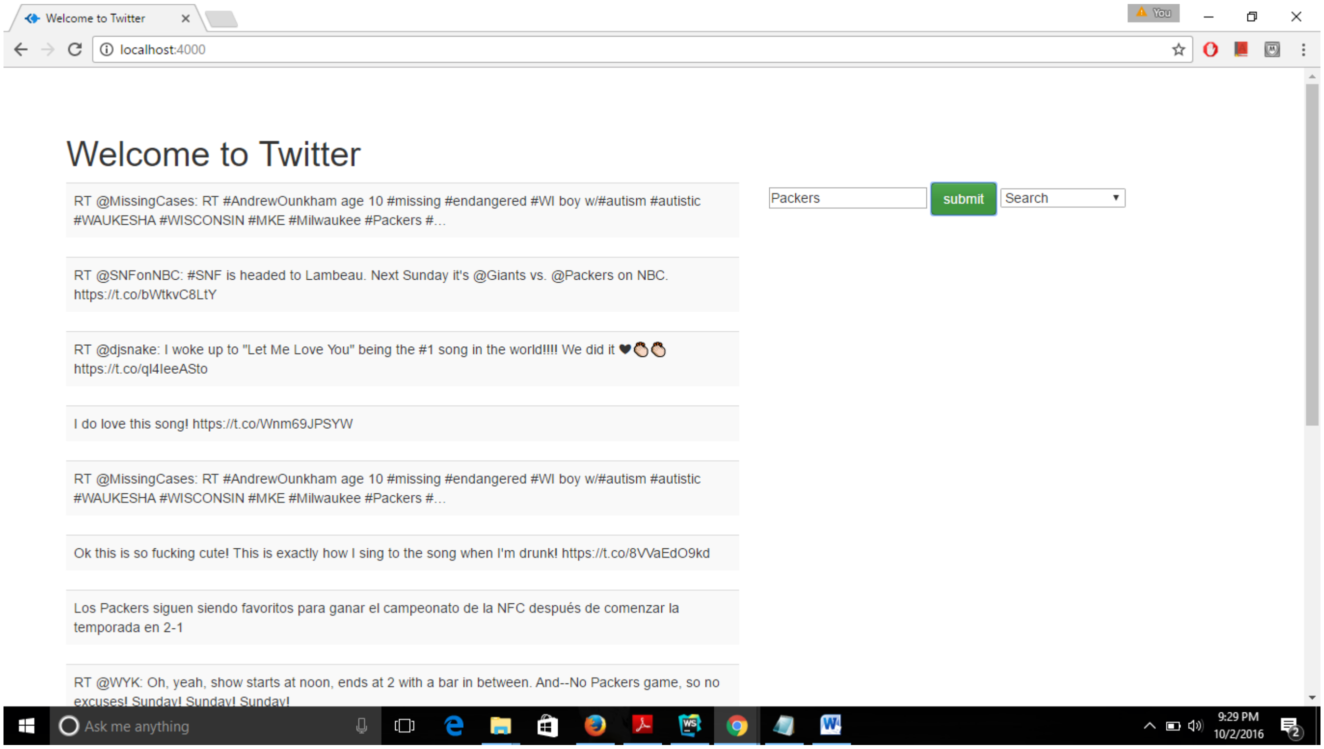
2.4 GET search/tweets

This API returns Tweets related to query specified.



Welcome to Twitter

Packers submit Search ▾



Welcome to Twitter

Packers submit Search ▾

RT @MissingCases: RT #AndrewOunkham age 10 #missing #endangered #WI boy w/#autism #autistic #WAUKESHA #WISCONSIN #MKE #Milwaukee #Packers #…

RT @SNFonNBC: #SNF is headed to Lambeau. Next Sunday it's @Giants vs. @Packers on NBC. https://t.co/bWtkvC8LtY

RT @djsnake: I woke up to "Let Me Love You" being the #1 song in the world!!!! We did it ❤👏👏 https://t.co/ql4leeASto

I do love this song! https://t.co/Wnm69JPSYW

RT @MissingCases: RT #AndrewOunkham age 10 #missing #endangered #WI boy w/#autism #autistic #WAUKESHA #WISCONSIN #MKE #Milwaukee #Packers #…

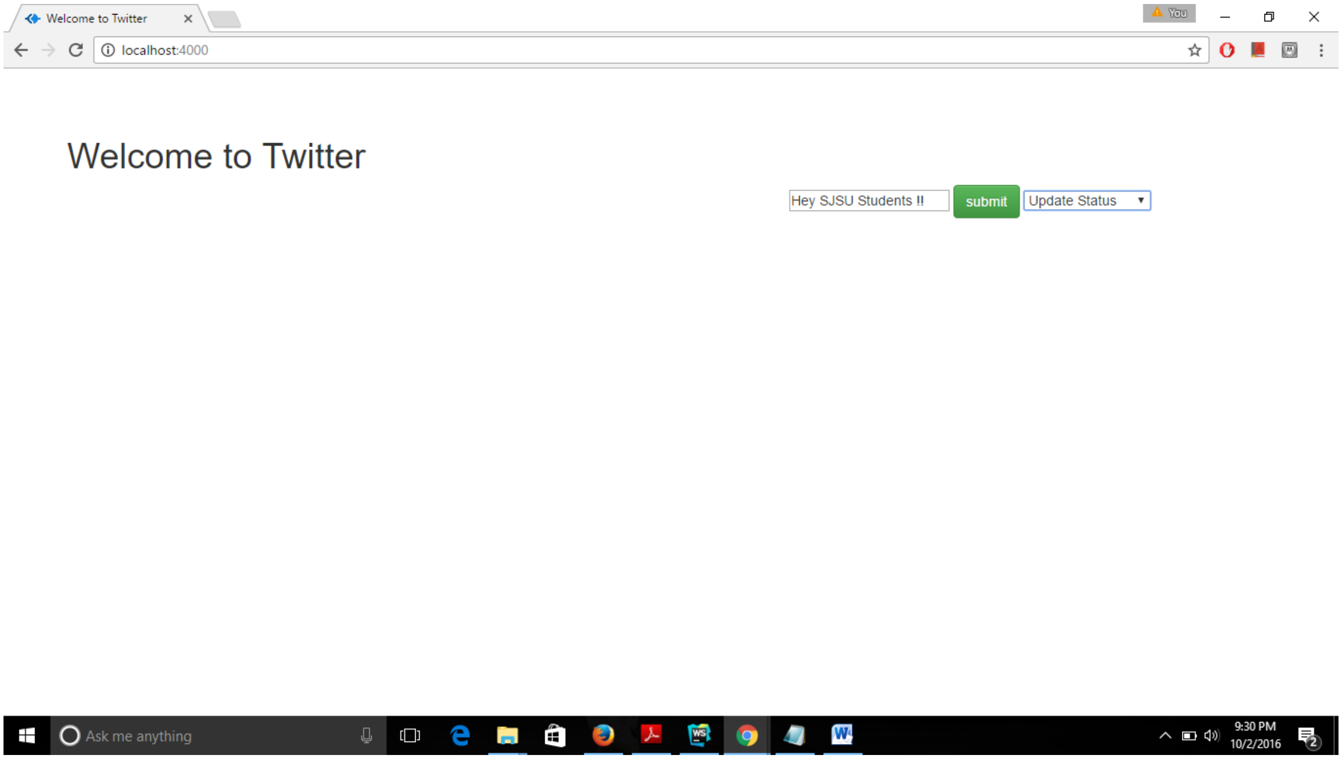
Ok this is so fucking cute! This is exactly how I sing to the song when I'm drunk! https://t.co/8VVaEdO9kd

Los Packers siguen siendo favoritos para ganar el campeonato de la NFC después de comenzar la temporada en 2-1

RT @WYK: Oh, yeah, show starts at noon, ends at 2 with a bar in between. And--No Packers game, so no excuses! Sunday! Sunday! Sunday!

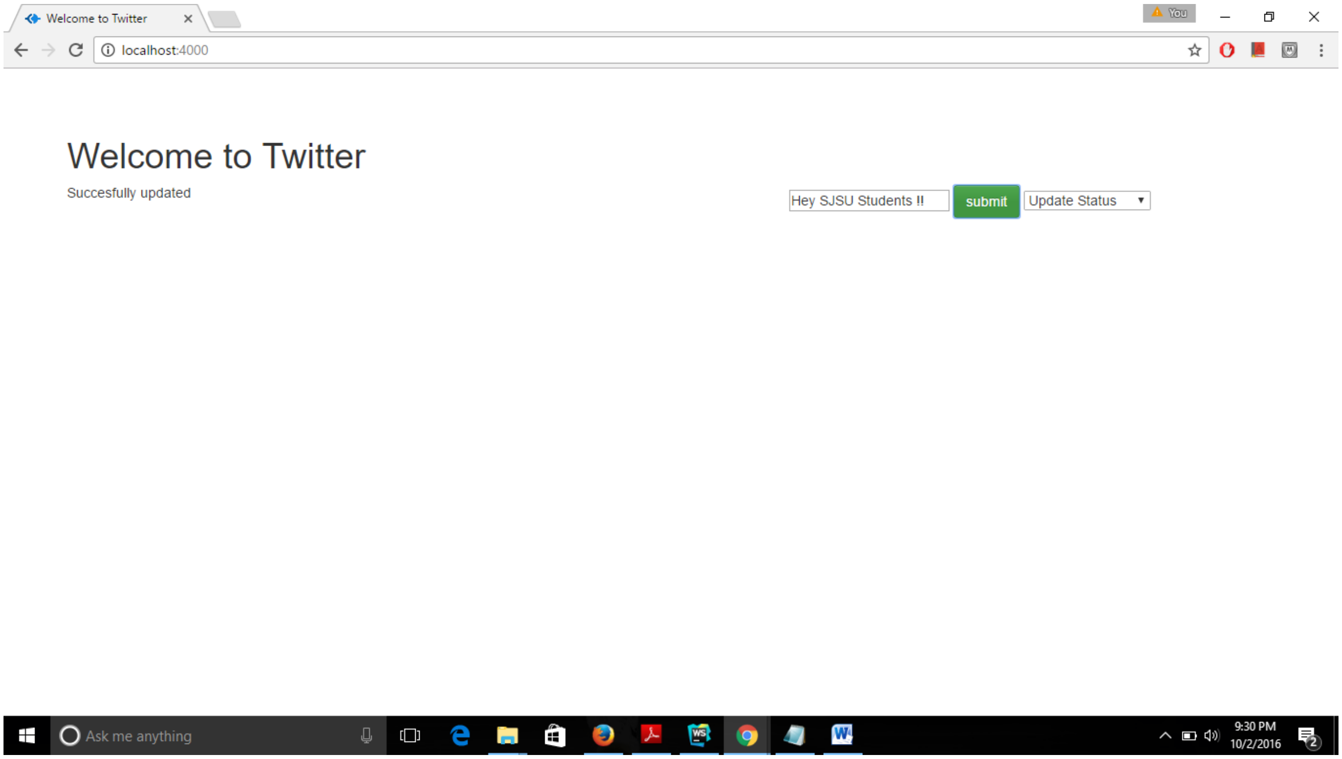
2.5 **POST statuses/update-**

This API is used to update the status of User.



Welcome to Twitter

Hey SJSU Students !!



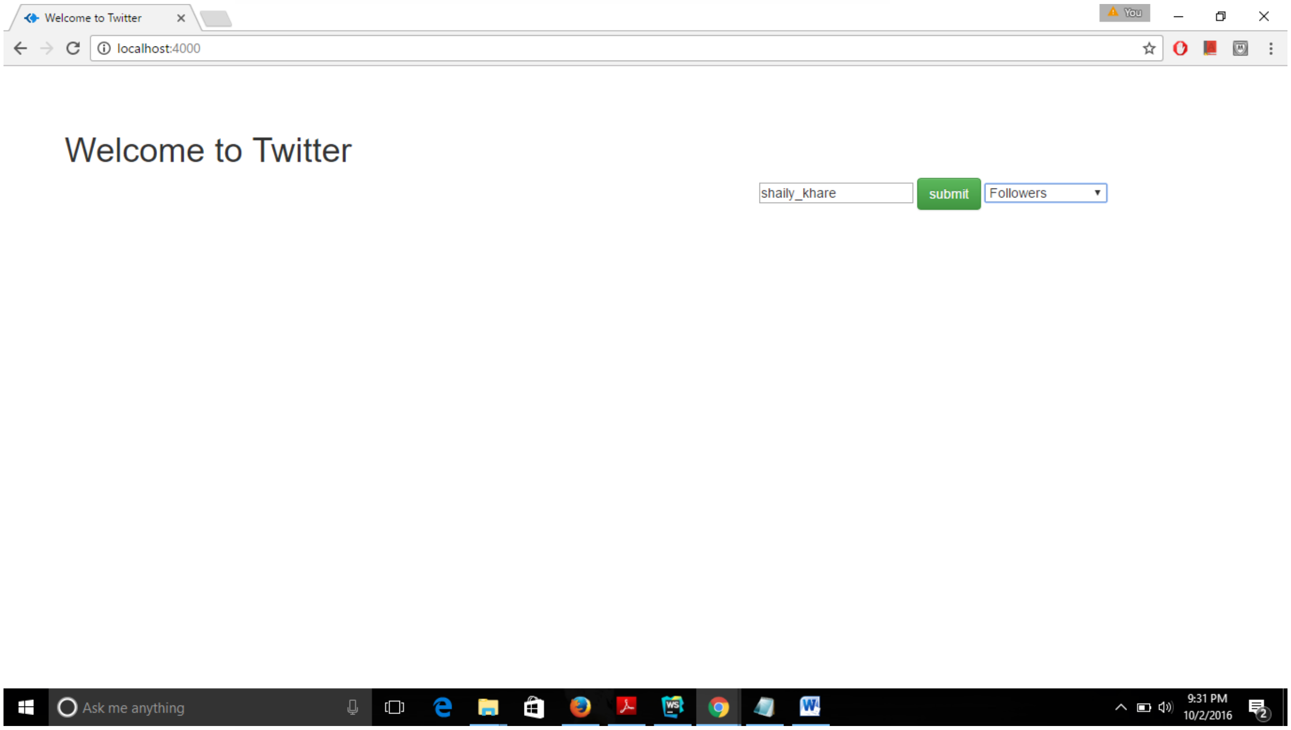
Welcome to Twitter

Succesfully updated

Hey SJSU Students !!

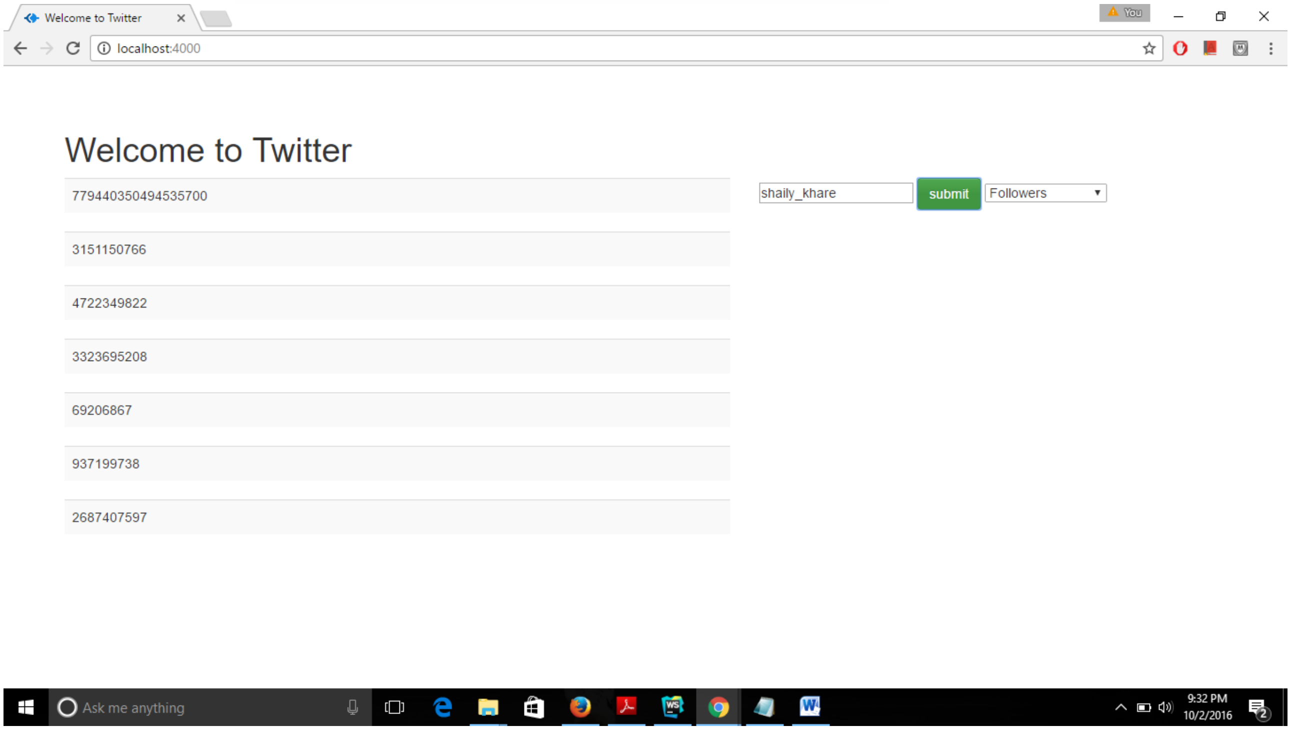
2.6 **GET followers/ids** –

This API returns user IDs of every user following the specified user.



Welcome to Twitter

shaily_khare | submit | Followers



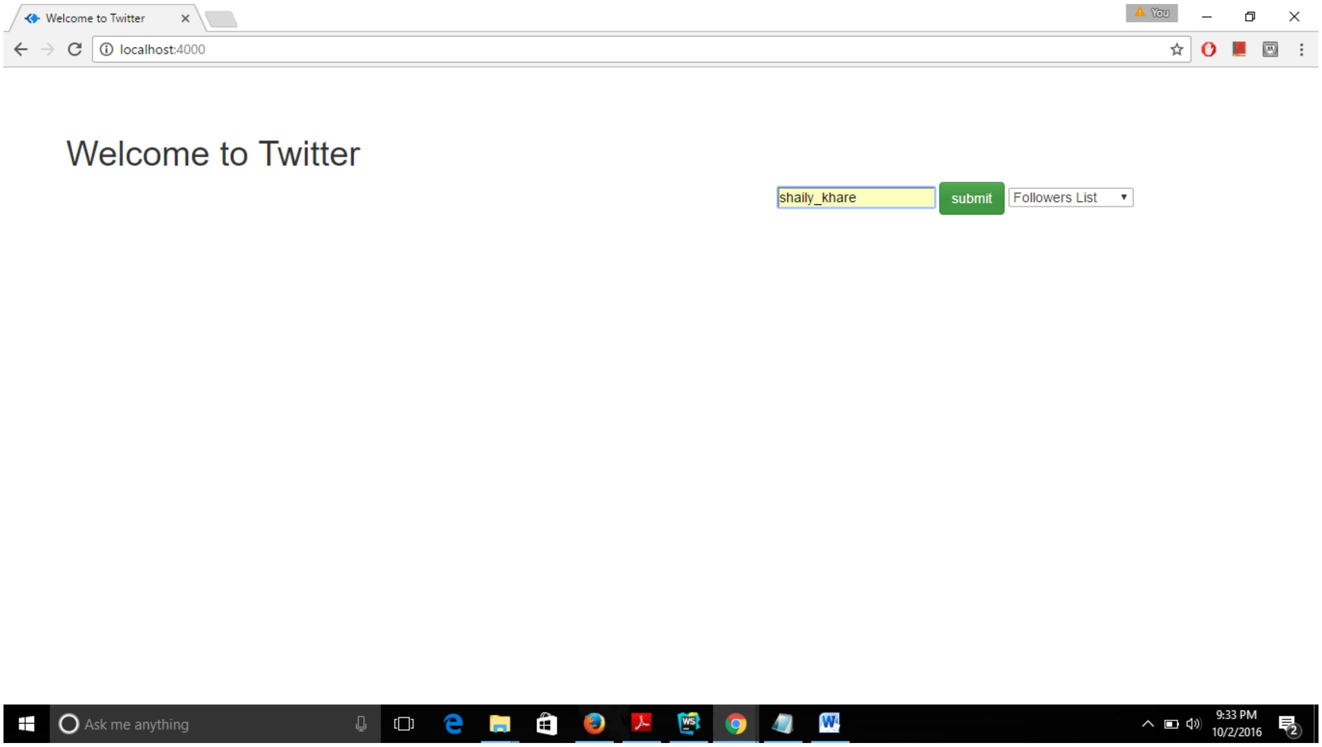
Welcome to Twitter

shaily_khare | submit | Followers

```
779440350494535700

3151150766

4722349822

3323695208

69206867

937199738

2687407597
```

2.7 **GET followers/list** –

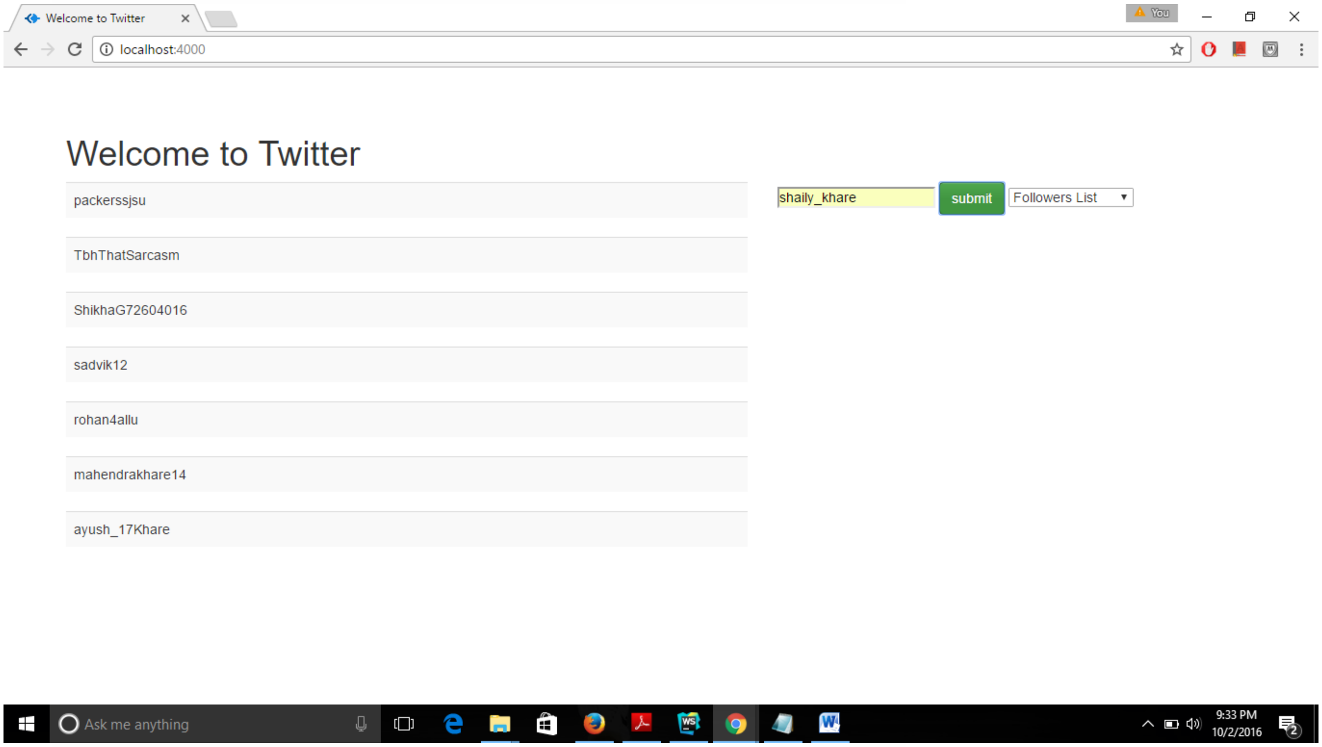
This API returns user objects of users following the specified user.



Welcome to Twitter

shaily_khare

Followers List



Welcome to Twitter

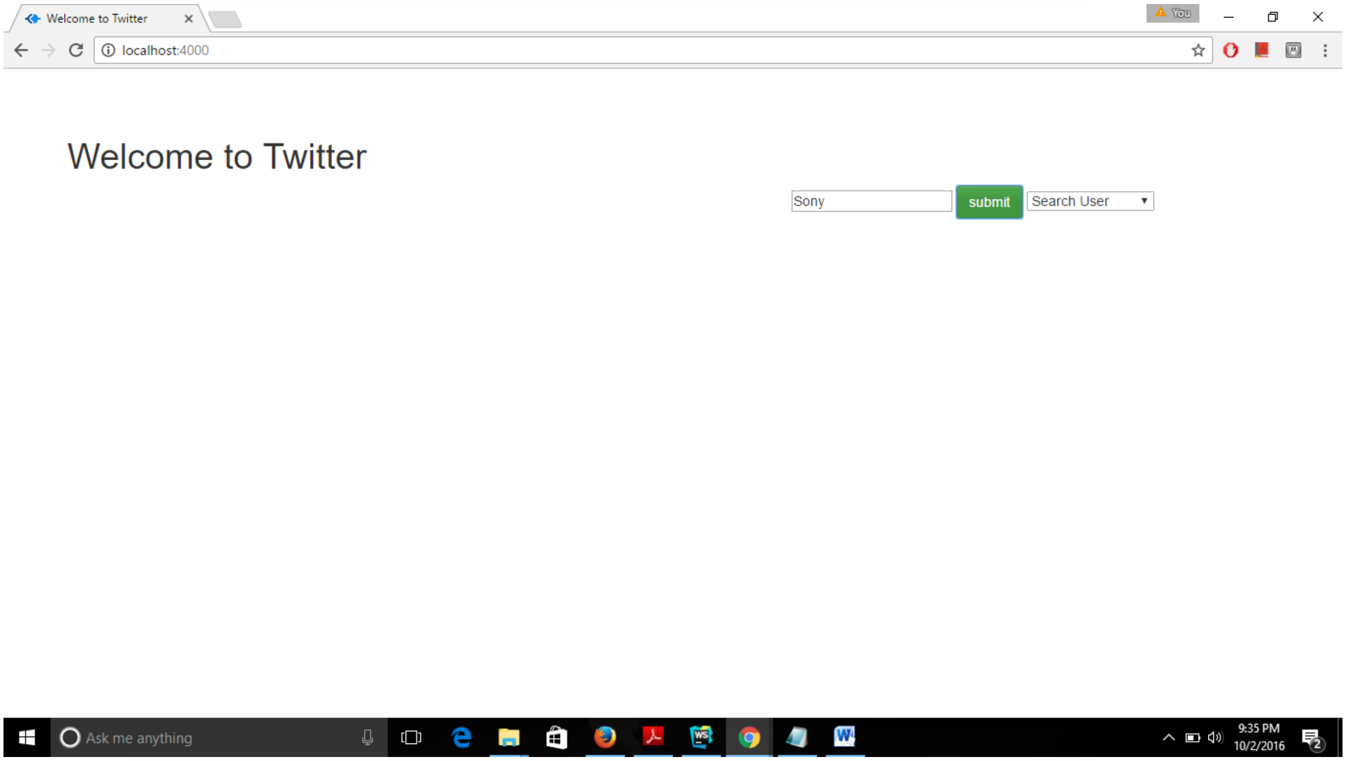
shaily_khare

Followers List

```
packerssjsu
TbhThatSarcasm
ShikhaG72604016
sadvik12
rohan4allu
mahendrakhare14
ayush_17Khare
```

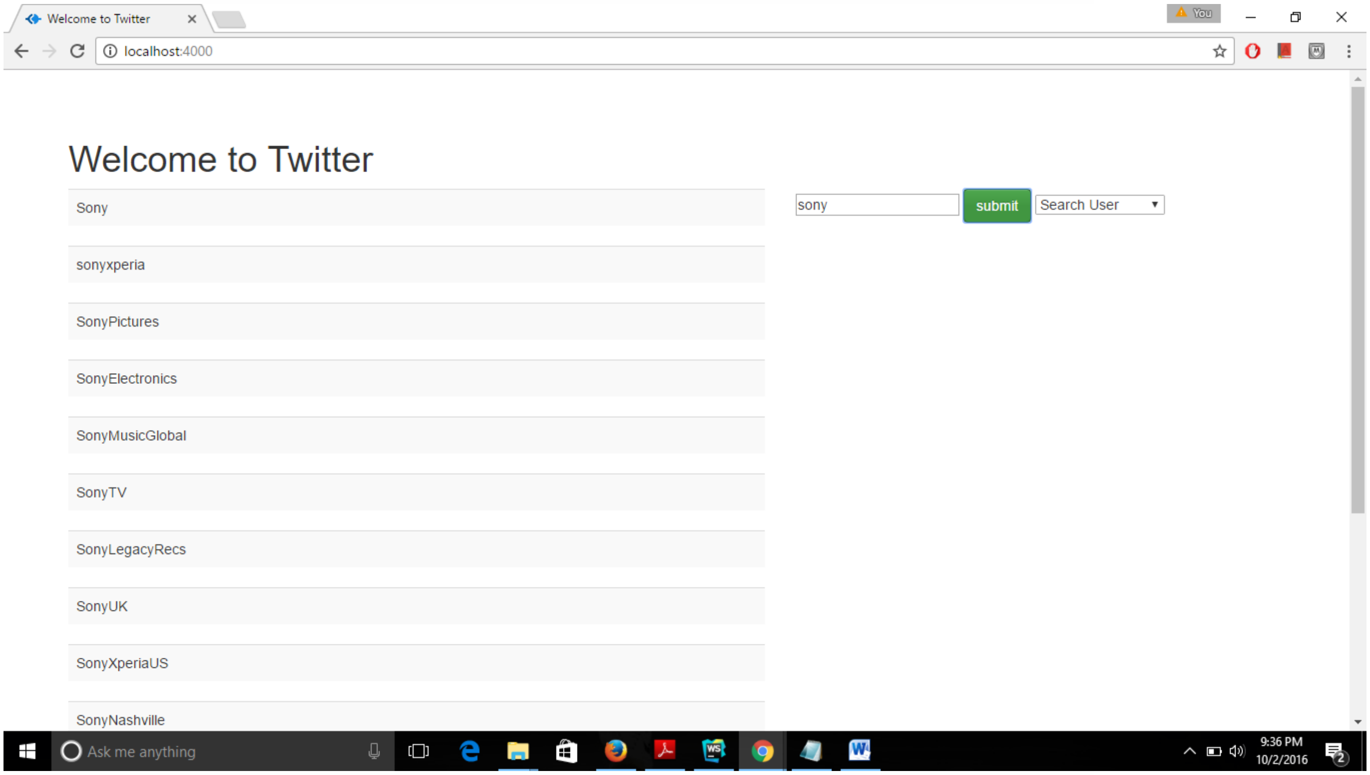
2.8 **GET users/search** –

This API gives a simple, related search interface to public user accounts on Twitter.



Welcome to Twitter

Sony submit Search User



Welcome to Twitter

sony submit Search User

Sony

sonyxperia

SonyPictures

SonyElectronics

SonyMusicGlobal

SonyTV

SonyLegacyRecs

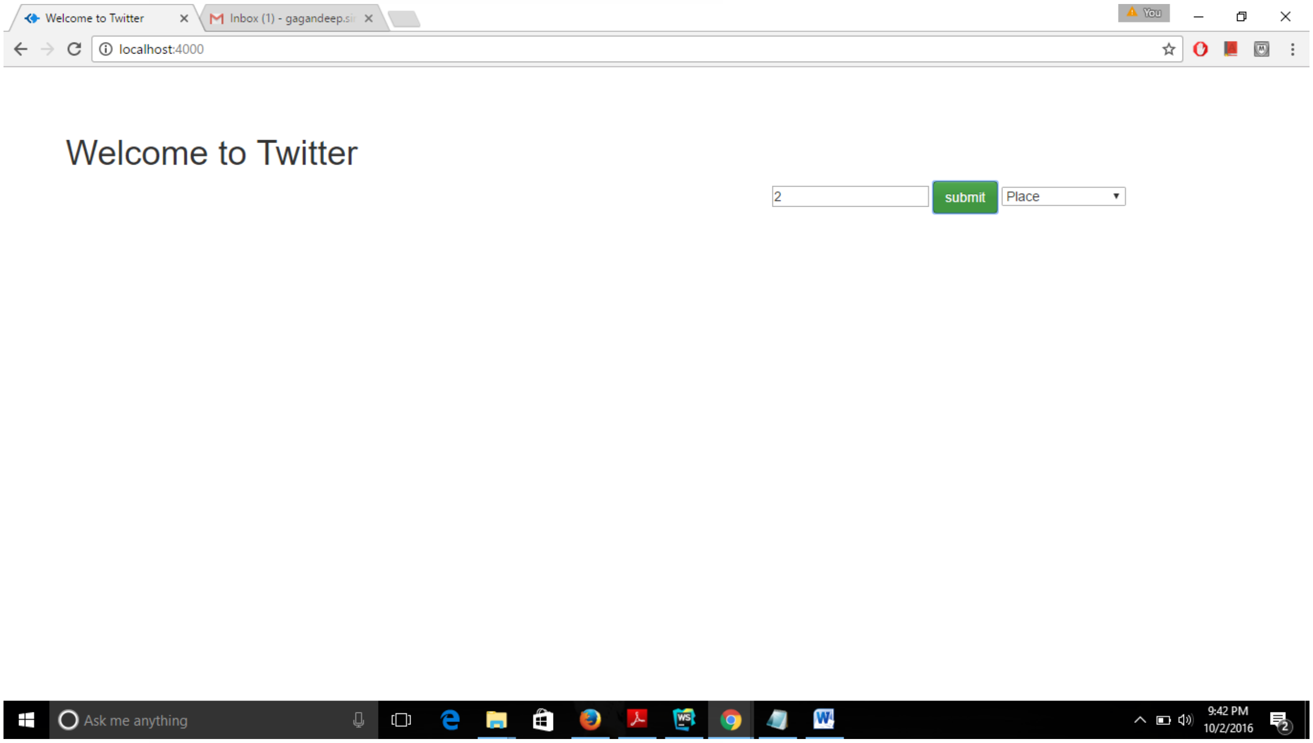
SonyUK

SonyXperiaUS

SonyNashville

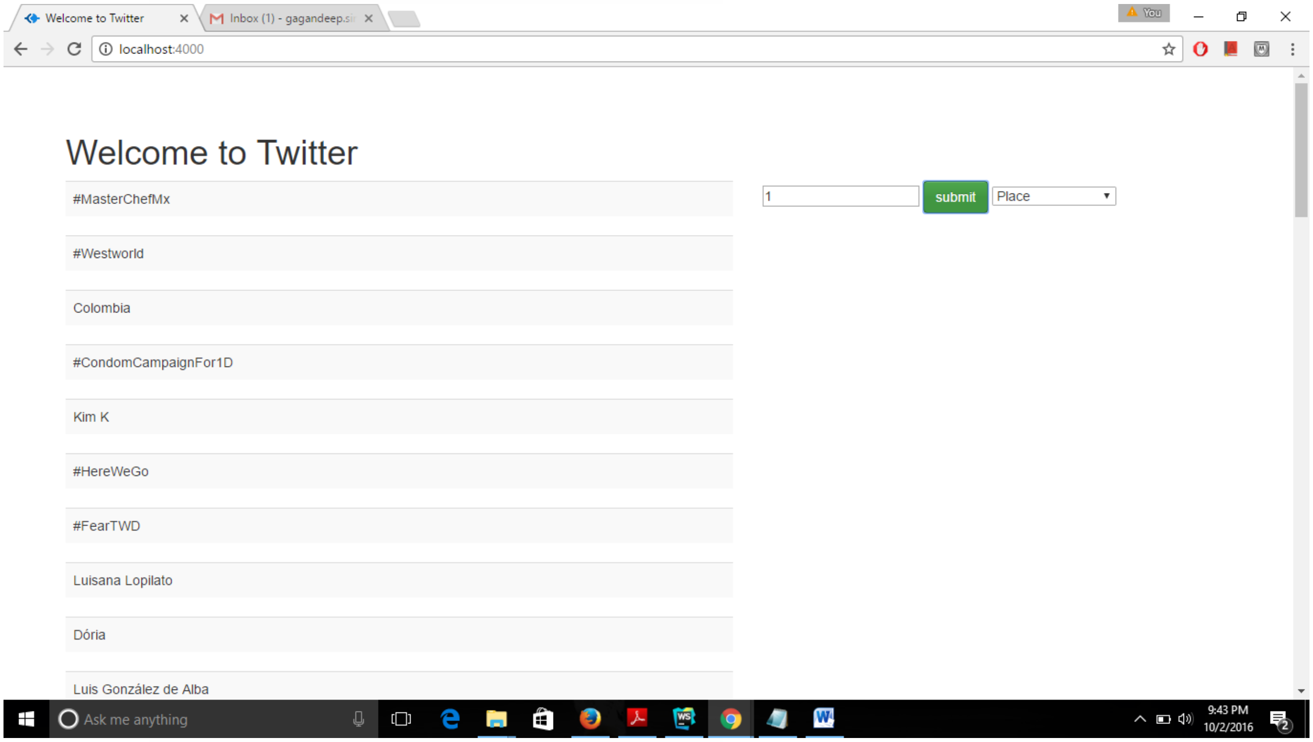
2.9 **GET trends/place -**

This API returns trending topics for a specific WOEID.



Welcome to Twitter

2



Welcome to Twitter

1

#MasterChefMx

#Westworld

Colombia

#CondomCampaignFor1D

Kim K

#HereWeGo

#FearTWD

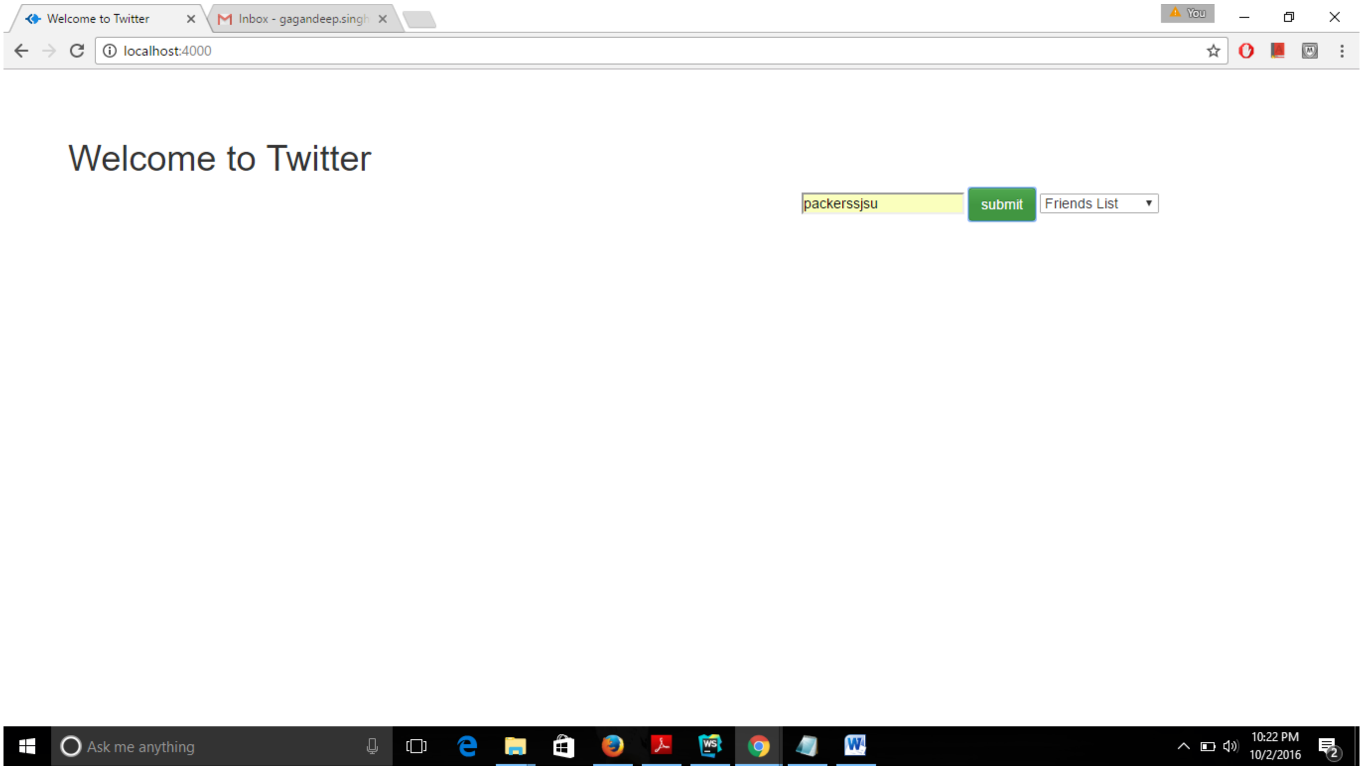
Luisana Lopilato

Dória

Luis González de Alba

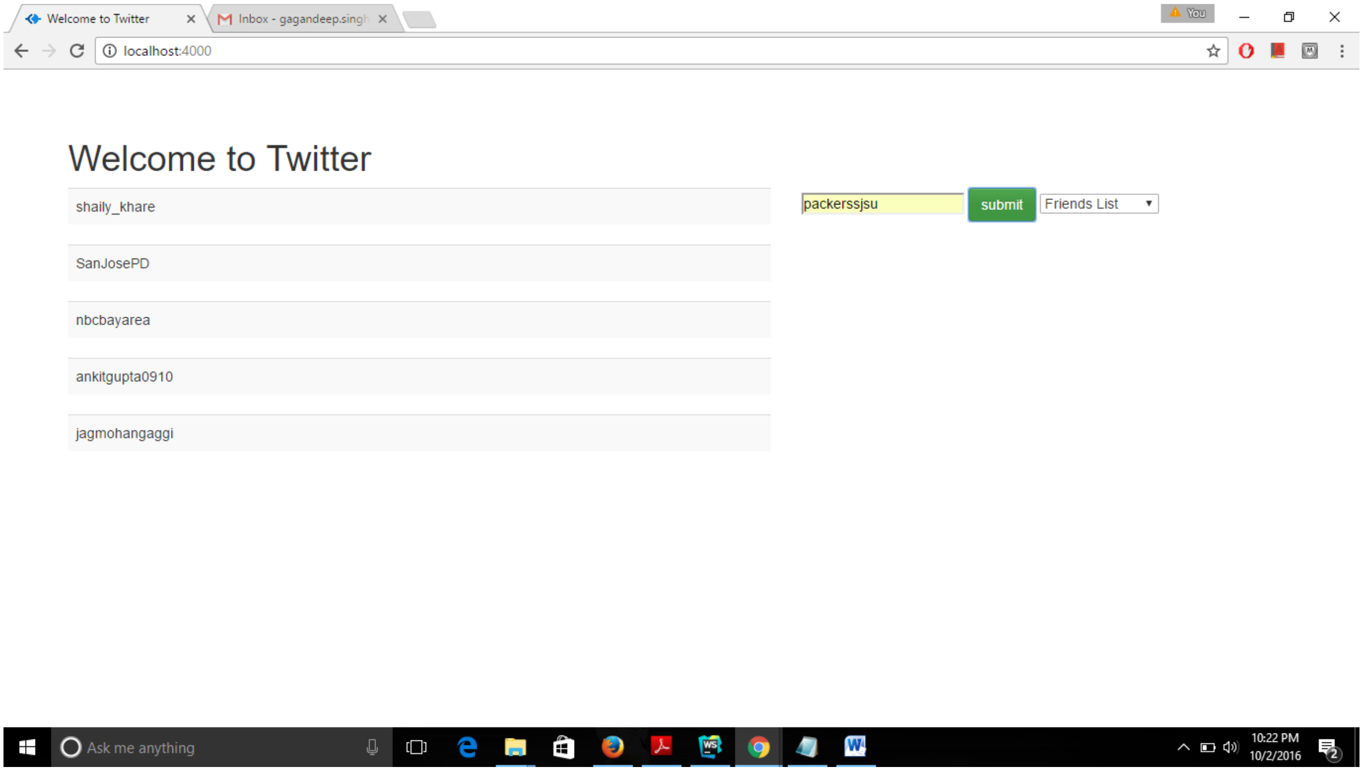
2.10 GET friends/list –

This API returns user objects for every user the specified user is following.



Welcome to Twitter

packerssjsu submit Friends List ▾



Welcome to Twitter

packerssjsu submit Friends List ▾

shaily_khare

SanJosePD

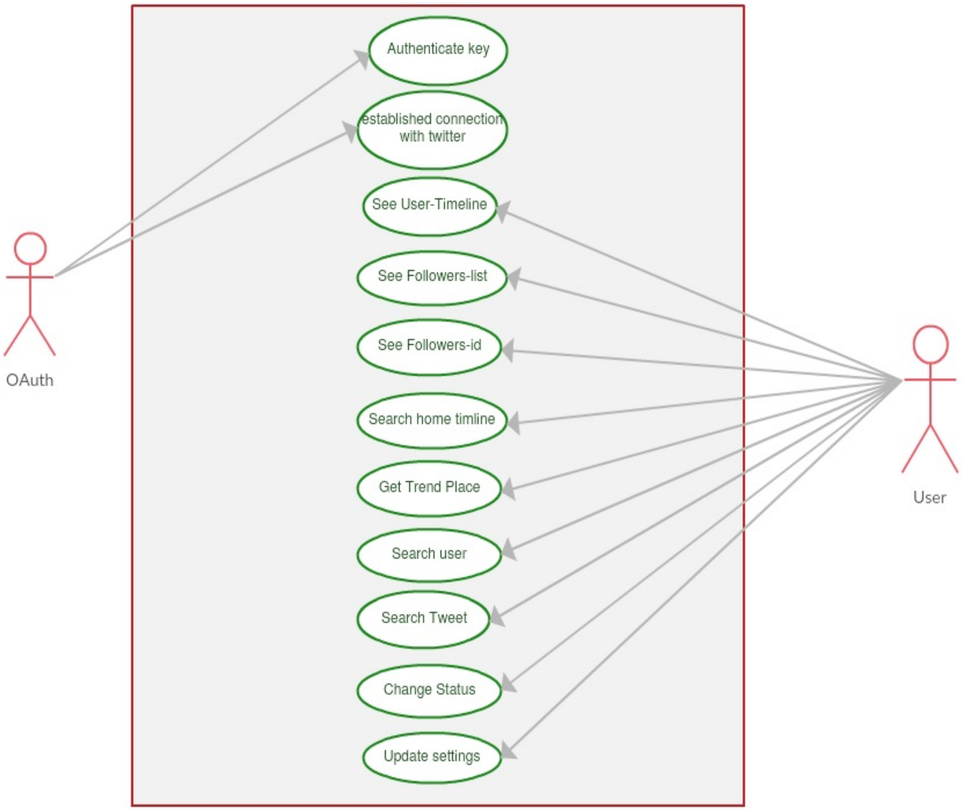
nbcbayarea

ankitgupta0910

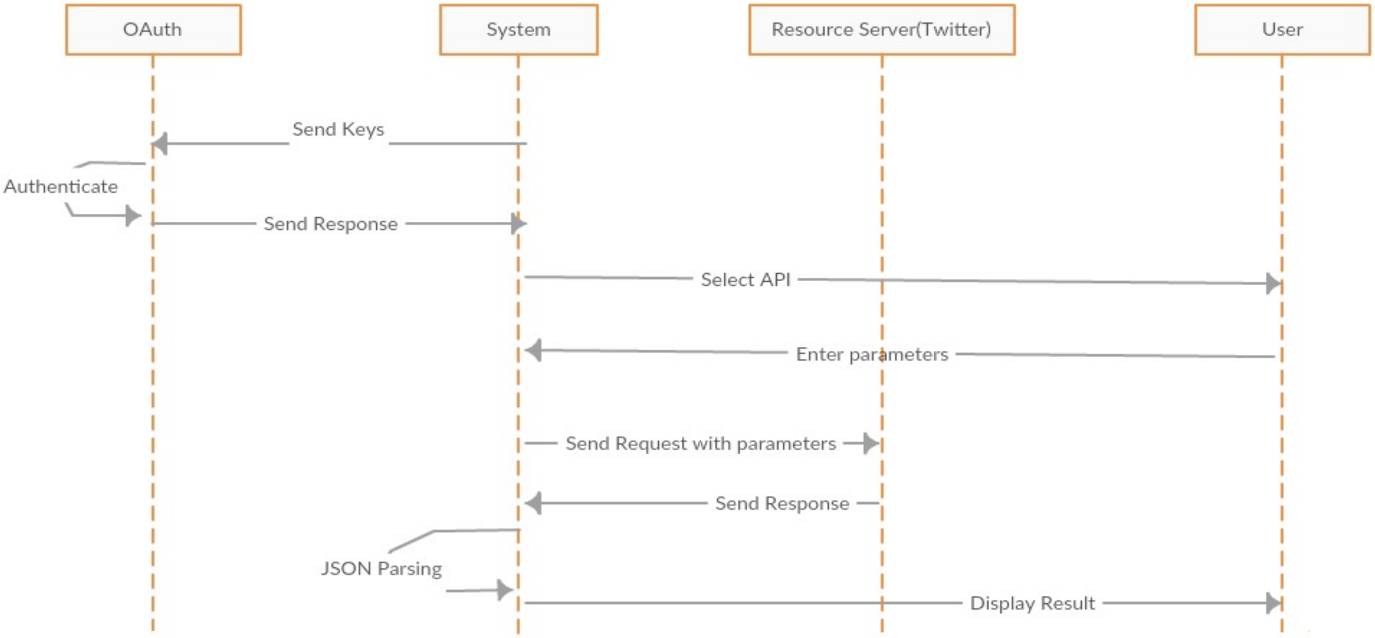
jagmohangaggi

3. UML DIAGRAMS

3.1 Use Case Diagram



3.2 Sequence Diagram

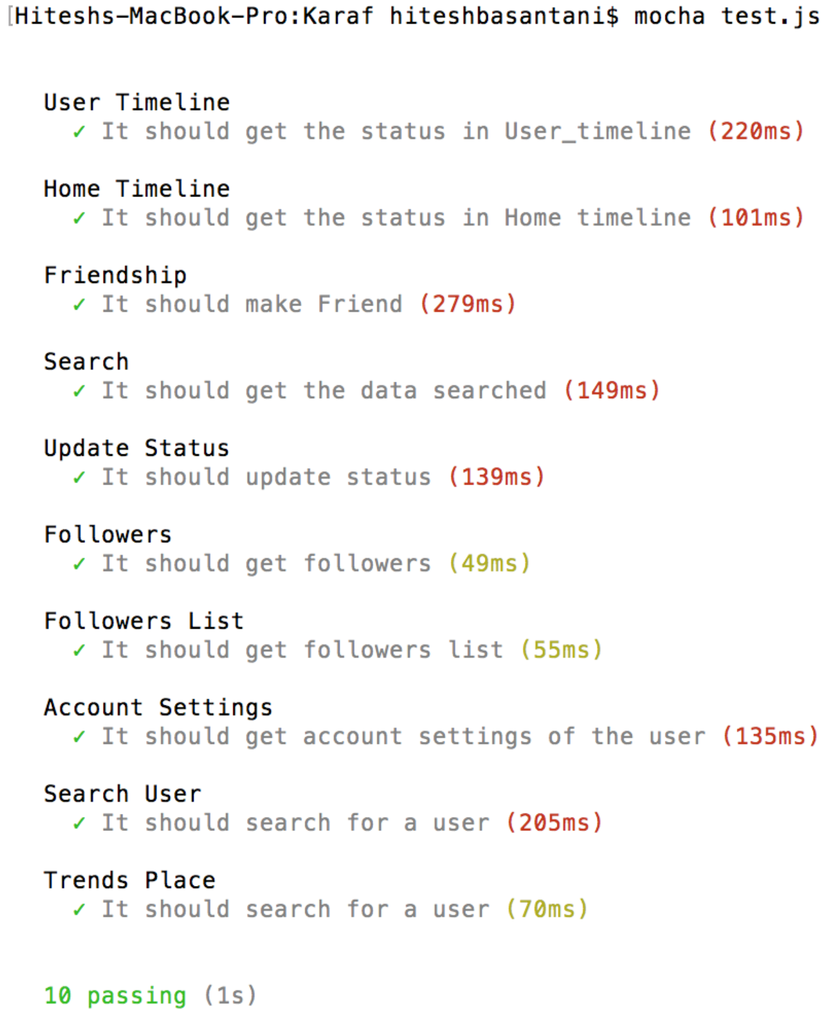


4. TESTING UNIT

Steps for Testing:

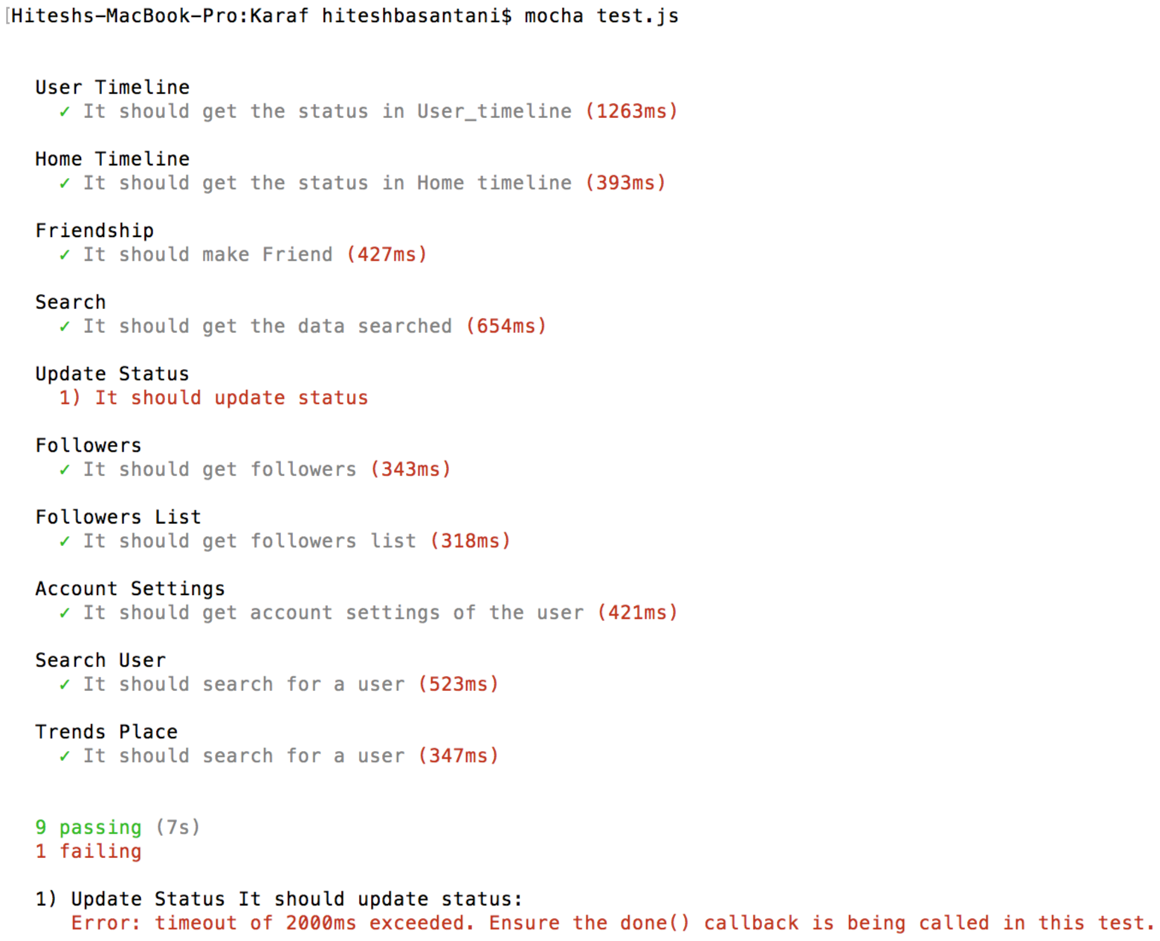
1. Install testing unit *Chai Mocha* using the command as: npm install chai mocha. Also importing package.json using npm command which will help in installation of the required node modules.
2. Create a file name test.js in Karaf Project where 'Karaf' is project folder's name.
3. Run the file with the command mocha test.js

Below is the screenshot where we run the test and all the tests pass successfully.



```
[Hiteshs-MacBook-Pro:Karaf hiteshbasantani$ mocha test.js


  User Timeline
    ✓ It should get the status in User_timeline (220ms)

  Home Timeline
    ✓ It should get the status in Home timeline (101ms)

  Friendship
    ✓ It should make Friend (279ms)

  Search
    ✓ It should get the data searched (149ms)

  Update Status
    ✓ It should update status (139ms)

  Followers
    ✓ It should get followers (49ms)

  Followers List
    ✓ It should get followers list (55ms)

  Account Settings
    ✓ It should get account settings of the user (135ms)

  Search User
    ✓ It should search for a user (205ms)

  Trends Place
    ✓ It should search for a user (70ms)


  10 passing (1s)
```

Below is the screenshot with one test fail (Update Status).



```
[Hiteshs-MacBook-Pro:Karaf hiteshbasantani$ mocha test.js


  User Timeline
    ✓ It should get the status in User_timeline (1263ms)

  Home Timeline
    ✓ It should get the status in Home timeline (393ms)

  Friendship
    ✓ It should make Friend (427ms)

  Search
    ✓ It should get the data searched (654ms)

  Update Status
    1) It should update status

  Followers
    ✓ It should get followers (343ms)

  Followers List
    ✓ It should get followers list (318ms)

  Account Settings
    ✓ It should get account settings of the user (421ms)

  Search User
    ✓ It should search for a user (523ms)

  Trends Place
    ✓ It should search for a user (347ms)


  9 passing (7s)
  1 failing

  1) Update Status It should update status:
     Error: timeout of 2000ms exceeded. Ensure the done() callback is being called in this test.
```