

# ASE\_Lab4 Report

## Ionic Application with Mashup of Web Services



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# Introduction

## Objectives

1. Create an Ionic application using any of the ionic template.
2. It should have Login and Registration Activities.
3. Should build application with 2 webservice mashup and that should be of knowledge/Machine Learning/AI services.
4. Write 3 unit testcases and test for Ionic application.

## Features

Below are the features that we implemented as part of this application:

1. Registration with form validation.
2. Login with validation.
3. Implemented “Gender Detection” Machine learning service which detect given name is male or female.
4. Our “Emotion Analysis” service will provide the emotion is positive or negative by given text.

## Design/Implementation

We have followed below steps to successfully complete this lab assignment:

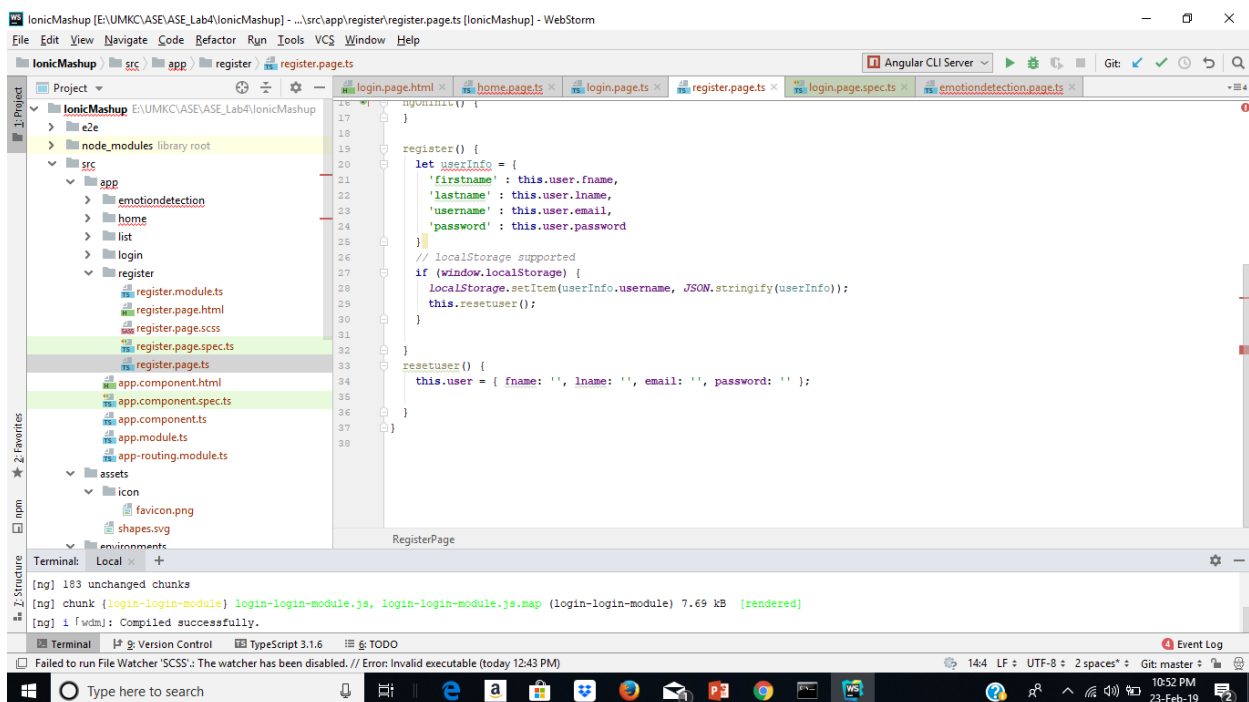
**Step -1:** We make sure all the pre-requisites are ready before start of the project and below are the technologies/languages used:

1. WebStorm IDE
2. Node
3. Npm
4. Ionic : npm install -g ionic
5. Cordova: npm install -g cordova
6. Angular
7. TypeScript
8. Bootstrap
9. Karma (For Unit testing)

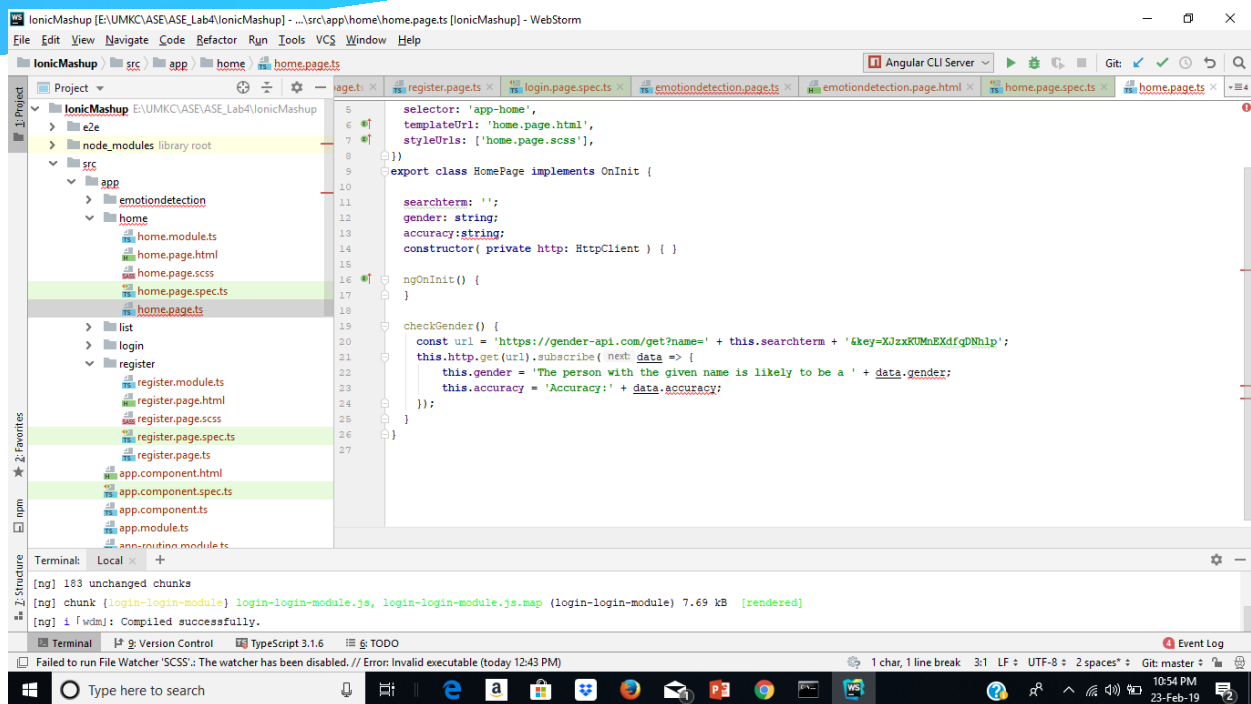
## Step-2:

1. Create Ionic application using command : `ionic start ionic-app tabmenu`
2. Create 3 pages under the project using command : `ionic g page login i.e; Register, Login , Homepage`

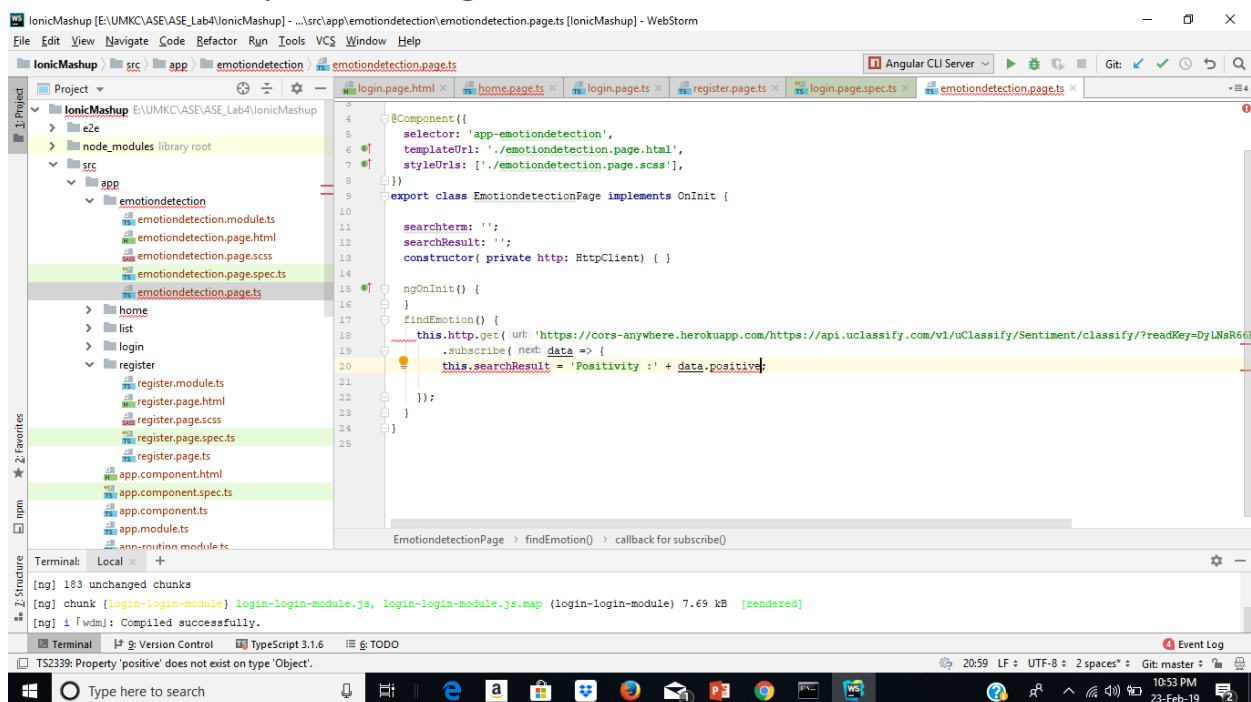
**Step-3:** Using HTML5 element “localStorage” we are fetching data of the form and storing locally



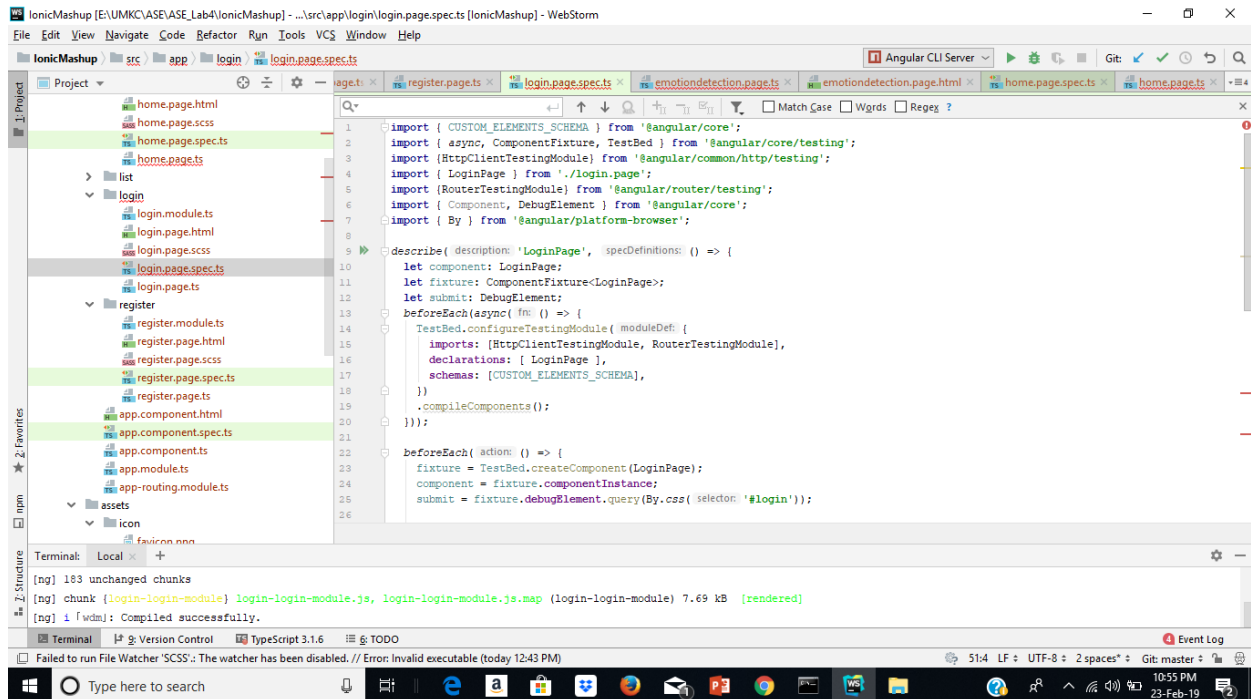
**Step-4:** We have integrated with “ `http://gender-api.com/get?name` ” AI API for Gender detection by name with a accuracy



**Step-5:** We have integrated with “<https://core-anywhere.herokuapp.com>” AI API for emotion analysis with the given text.



## Step-6: Written unit test cases for login module

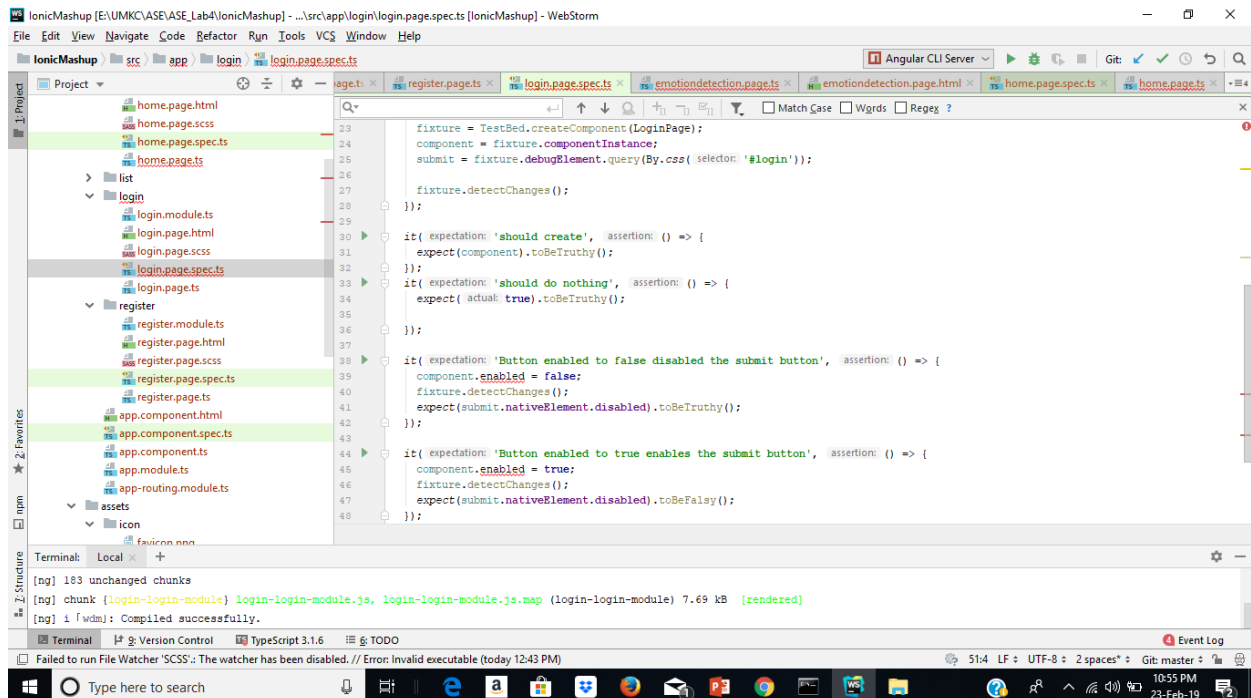


The screenshot shows the VS Code editor with the 'login.page.spec.ts' file open. The file contains the following code:

```
1 import { CUSTOM_ELEMENTS_SCHEMA } from '@angular/core';
2 import { async, ComponentFixture, TestBed } from '@angular/core/testing';
3 import { HttpClientTestingModule } from '@angular/common/http/testing';
4 import { LoginPage } from './login.page';
5 import { RouterTestingModule } from '@angular/router/testing';
6 import { Component, DebugElement } from '@angular/core';
7 import { By } from '@angular/platform-browser';
8
9 describe('LoginPage', () => {
10   let component: LoginPage;
11   let fixture: ComponentFixture<LoginPage>;
12   let submit: DebugElement;
13   beforeEach(async() => {
14     TestBed.configureTestingModule({
15       imports: [HttpClientTestingModule, RouterTestingModule],
16       declarations: [LoginPage],
17       schemas: [CUSTOM_ELEMENTS_SCHEMA],
18     });
19     .compileComponents();
20   });
21
22   beforeEach(() => {
23     fixture = TestBed.createComponent(LoginPage);
24     component = fixture.componentInstance;
25     submit = fixture.debugElement.query(By.css('button'));
26   });
```

The terminal at the bottom shows the following output:

```
[ng] 183 unchanged chunks
[ng] chunk {login-login-module} login-login-module.js, login-login-module.js.map (login-login-module) 7.69 kB [rendered]
[ng] 1 [vdom]: Compiled successfully.
```



The screenshot shows the VS Code editor with the 'login.page.spec.ts' file open. The file contains the following code:

```
23   fixture = TestBed.createComponent(LoginPage);
24   component = fixture.componentInstance;
25   submit = fixture.debugElement.query(By.css('button'));
26   fixture.detectChanges();
27
28   it('should create', () => {
29     expect(component).toBeTruthy();
30   });
31
32   it('should do nothing', () => {
33     expect(submit.nativeElement.disabled).toBeTruthy();
34   });
35
36   it('Button enabled to false disabled the submit button', () => {
37     component.enabled = false;
38     fixture.detectChanges();
39     expect(submit.nativeElement.disabled).toBeTruthy();
40   });
41
42   it('Button enabled to true enables the submit button', () => {
43     component.enabled = true;
44     fixture.detectChanges();
45     expect(submit.nativeElement.disabled).toBeFalsy();
46   });
47
48   });
```

The terminal at the bottom shows the following output:

```
[ng] 183 unchanged chunks
[ng] chunk {login-login-module} login-login-module.js, login-login-module.js.map (login-login-module) 7.69 kB [rendered]
[ng] 1 [vdom]: Compiled successfully.
```

# Unit Test Cases:

S.no	Test Cases	Type of testcase
1	Verify whether login button is enabled or not when user is trying to login	Positive
2	Our system will verify if button got disabled once user logged in	Positive
3	Verify if a user cannot login with invalid username and valid password.	Negative

## Unit Testing using Karma:

Command used to test ionic application using karma is : ng test

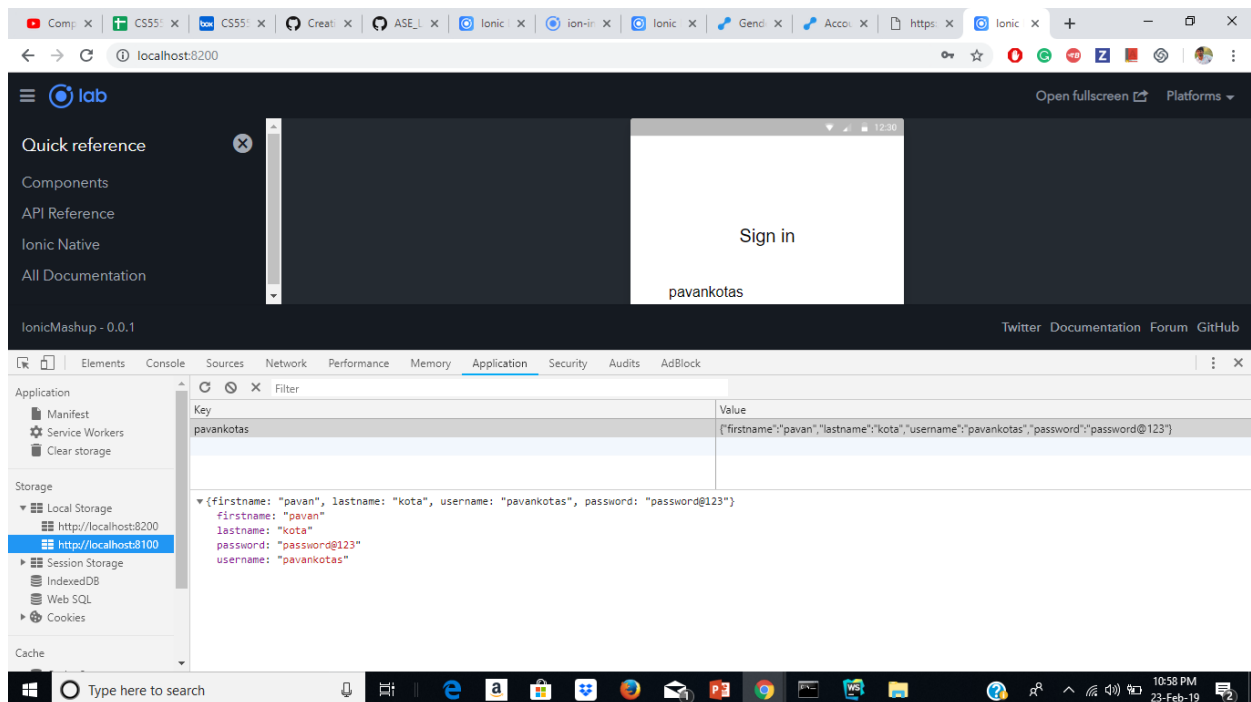
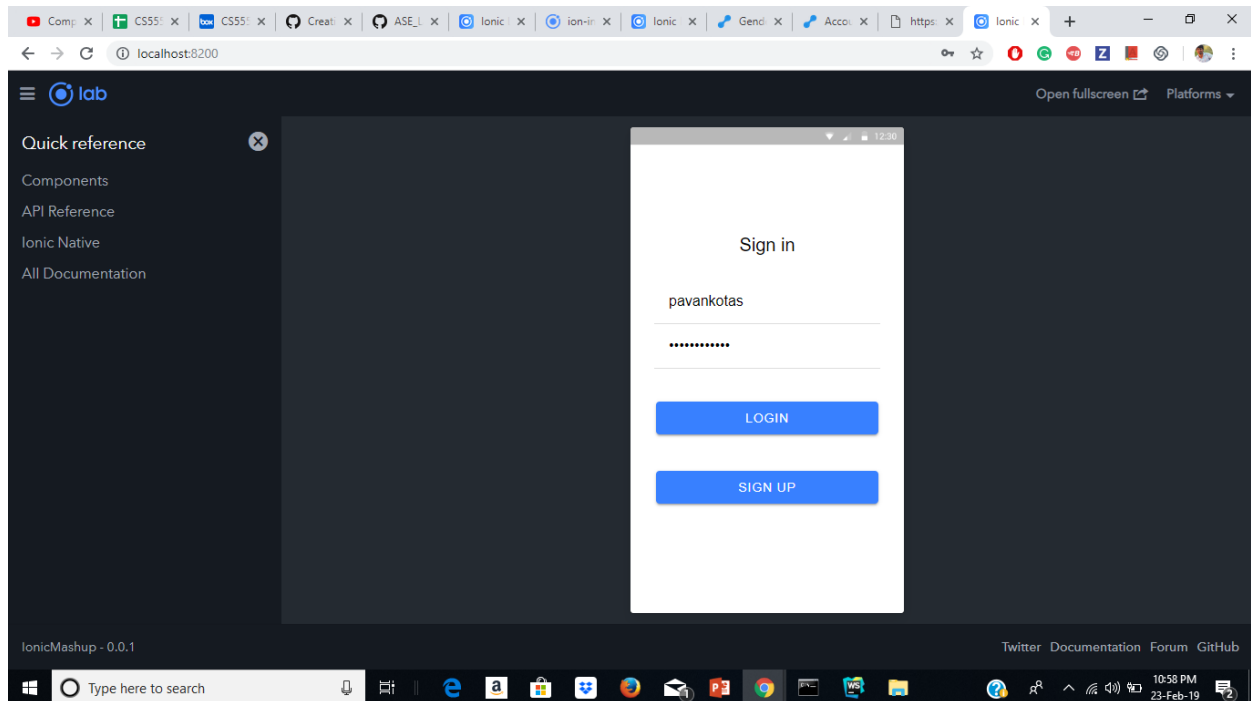
The screenshot shows a web-based IDE environment for an Ionic application. The file explorer on the left shows the project structure, including 'src/app/home/home.module.ts'. The main editor displays the code for 'home.module.ts', which defines a route for 'HomePage'. The terminal at the bottom shows the output of the 'ng test' command, including compilation status and several TypeScript errors:

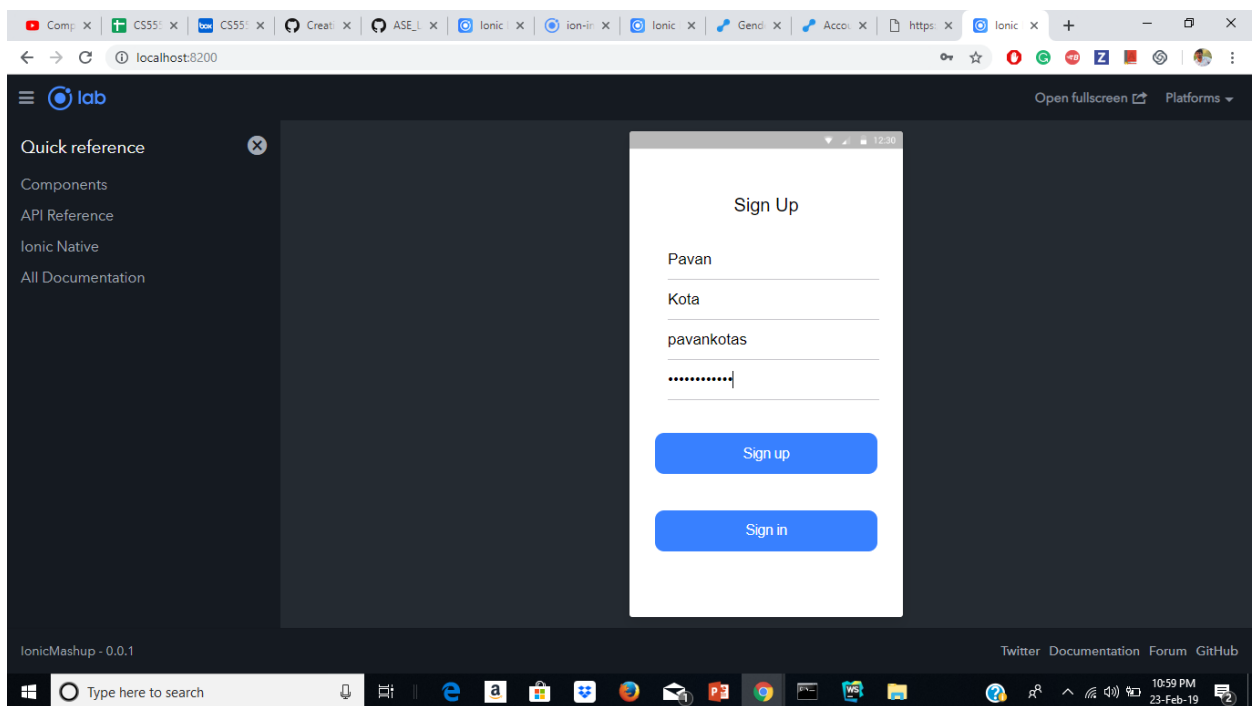
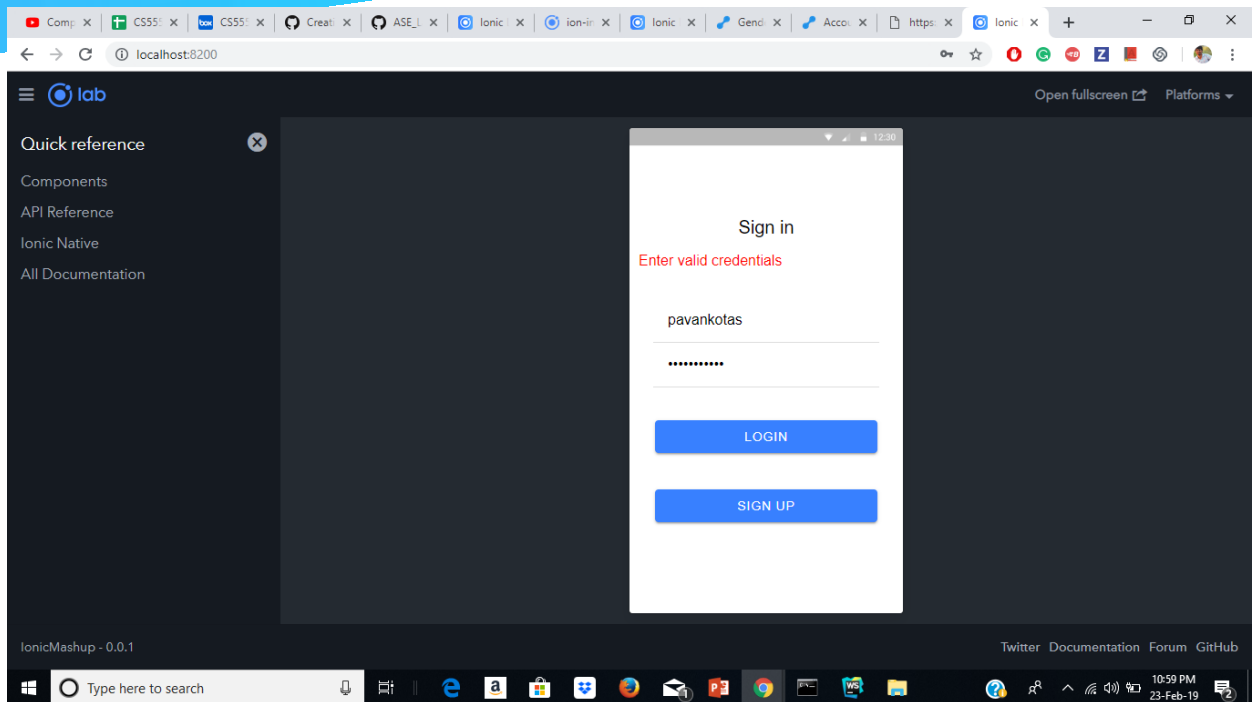
```
[ng] chunk {login-login-module} login-login-module.js, login-login-module.js.map (login-login-module) 7.69 kB [rendered]
[ng] i {wdm}: Compiled successfully.
[ng] i {wdm}: Compiling...
[ng]
[ng] ERROR in src/app/emotiondetection/emotiondetection.page.ts(20,9): error TS2322: Type 'string' is not assignable to type '***'.
[ng] src/app/emotiondetection/emotiondetection.page.ts(20,51): error TS2339: Property 'positive' does not exist on type 'Object'.
[ng] src/app/home/home.page.ts(22,82): error TS2339: Property 'gender' does not exist on type 'Object'.
[ng] src/app/home/home.page.ts(23,44): error TS2339: Property 'accuracy' does not exist on type 'Object'.
[ng]
[ng] Date: 2019-02-24T04:50:56.496Z - Hash: 63d7e33925de01c75ac1 - Time: 4590ms
[ng] 183 unchanged chunks
[ng] chunk {login-login-module} login-login-module.js, login-login-module.js.map (login-login-module) 7.69 kB [rendered]
[ng] i {wdm}: Compiled successfully.
Terminate batch job (Y/N)? Y

E:\UMKC\ASE_Lab4\IonicMashup>ng test
0% compiling
```

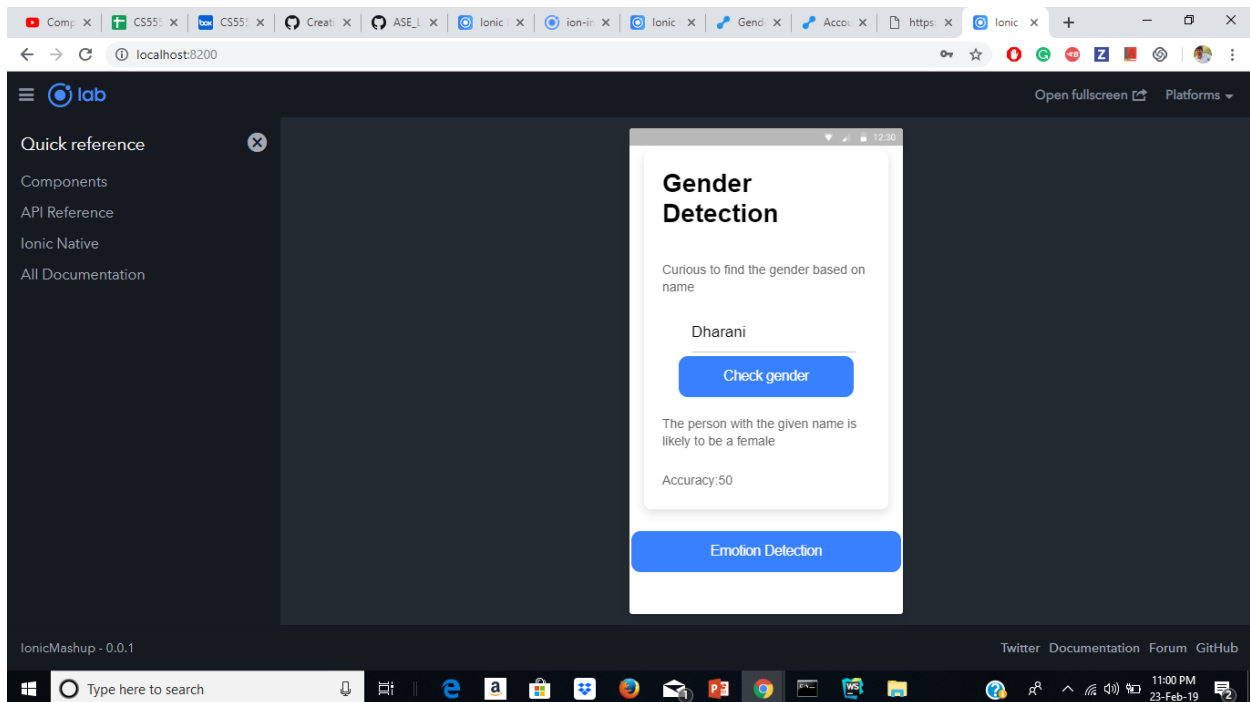
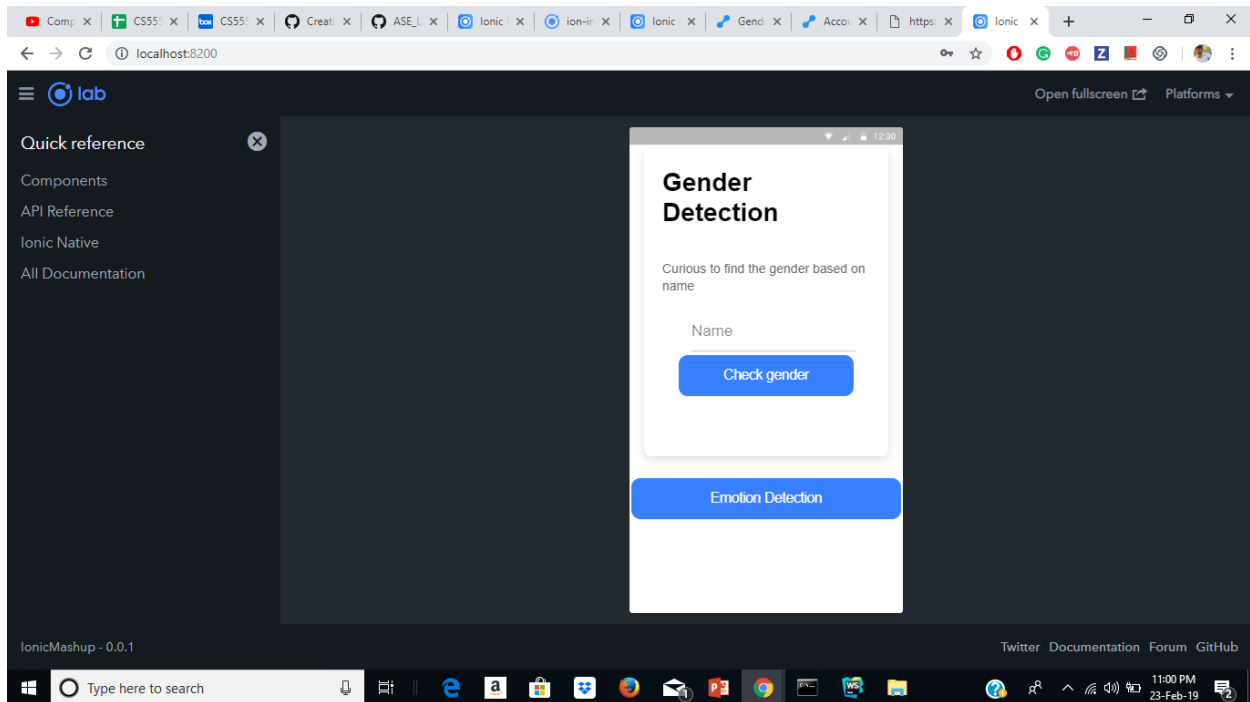
The bottom status bar indicates the file watcher is disabled and the current time is 11:02 PM on 23-Feb-19.

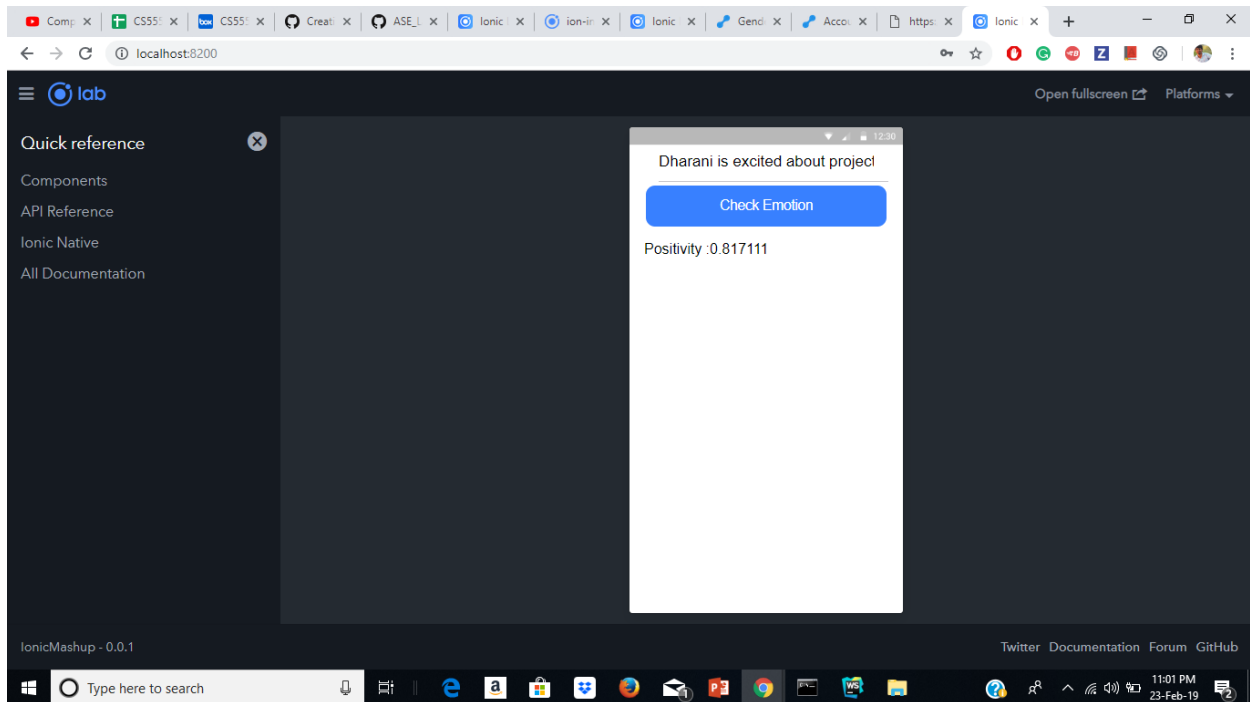
# UI Screens (Inputs/Outputs):











## Issues/Limitations:

We have faced few issues with Ionic 4 as that is still in beta phase.

## Conclusion:

This Lab assignment helped us gain knowledge on Ionic and build applications on the same which helps to build mobile and web applications using web technologies. Furthermore we have also learn how to write testcases and do unit testing in Karma.