MALAD KANDIVALI EDUCATION SOCIETY'S

NAGINDAS KHANDWALA COLLEGE OF COMMERCE, ARTS & MANAGEMENT STUDIES & SHANTABEN NAGINDAS KHANDWALA COLLEGE OF SCIENCE
MALAD [W], MUMBAI – 64
AUTONOMOUS INSTITUTION
(Affiliated To University Of Mumbai)
Reaccredited 'A' Grade by NAAC | ISO 9001:2015 Certified

CERTIFICATE

Name: Gulam Ahmad Siddique

Roll No:375   Programme: BSc IT/CS   Semester: III

This is certified to be a bonafide record of practical works done by the above student in the

college laboratory for the course **Hybrid Application Development(classcode: 2037UCSMD)** for the partial fulfilment of Third Semester of BSc IT/CS during the

academic year 2020-21.

The journal work is the original study work that has been duly approved in the year 2020-21

by the undersigned.

_____ External Examiner		_____ Mr. Gangashankar Singh (Subject-In-Charge)
Date of Examination:	(College Stamp)	

Class: S.Y. B.Sc. IT Sem- III   Roll No: 375

Subject: Hybrid Application Development
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Hybride Application Develoment Practical

Practical 1) AngularJS Directives

What are Directives in AngularJS?

AngularJS lets you extend HTML with new attributes called Directives. AngularJS has a set of built-in directives which offers functionality to your applications. AngularJS also lets you define your own directives.

Code:

```html
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="UTF-8" />
    <meta name="viewport" content="width=device-width, initial-scale=1.0" />
    <title>Document</title>
    <script src="https://ajax.googleapis.com/ajax/libs/angularjs/1.6.9/angular.min.js"></script>
  </head>
  <body>
    <div ng-app="" ng-init="Names='Ahmad'">
      <p>
        Name :
        <input type="text" ng-model="displayName" />    Your
        name: {{displayName}}
      </p>
    </div>
  </body>
</html>
```

Output:

Practical 2) AngularJS Controllers
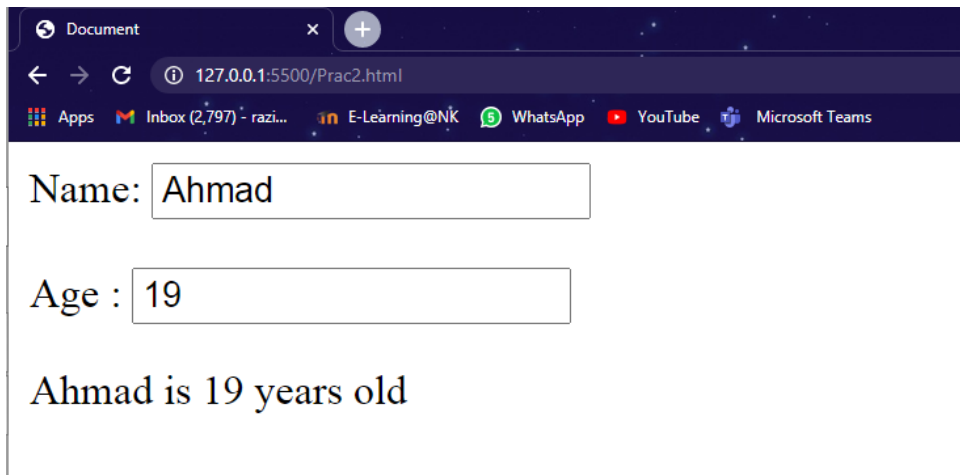
What are Controllers in AngularJS?

AngularJS applications mainly rely on controllers to control the flow of data in the application. A controller is defined using ng-controller directive. A controller is a JavaScript object that contains attributes/properties, and functions. Each controller accepts $scope as a parameter, which refers to the application/module that the controller needs to handle.

Code:

```html
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="UTF-8" />
    <meta name="viewport" content="width=device-width, initial-scale=1.0" />
    <title>Document</title>
    <script src="https://ajax.googleapis.com/ajax/libs/angularjs/1.6.9/angular.min.js"></script>
  </head>
  <body>
    <div ng-app="myApp" ng-controller="myCtrl">
      Name: <input type="text" ng-model="Name" /> <br /><br />
      Age : <input type="text" ng-model="age" />

      <p>{{Name +' is '+ age}} years old</p>
    </div>
    <script>
      var app = angular.module("myApp", []);
      app.controller("myCtrl", function ($scope) {
        $scope.Name = "Ahmad";
        $scope.age = 19;
      });
    </script>
  </body>
</html>
```
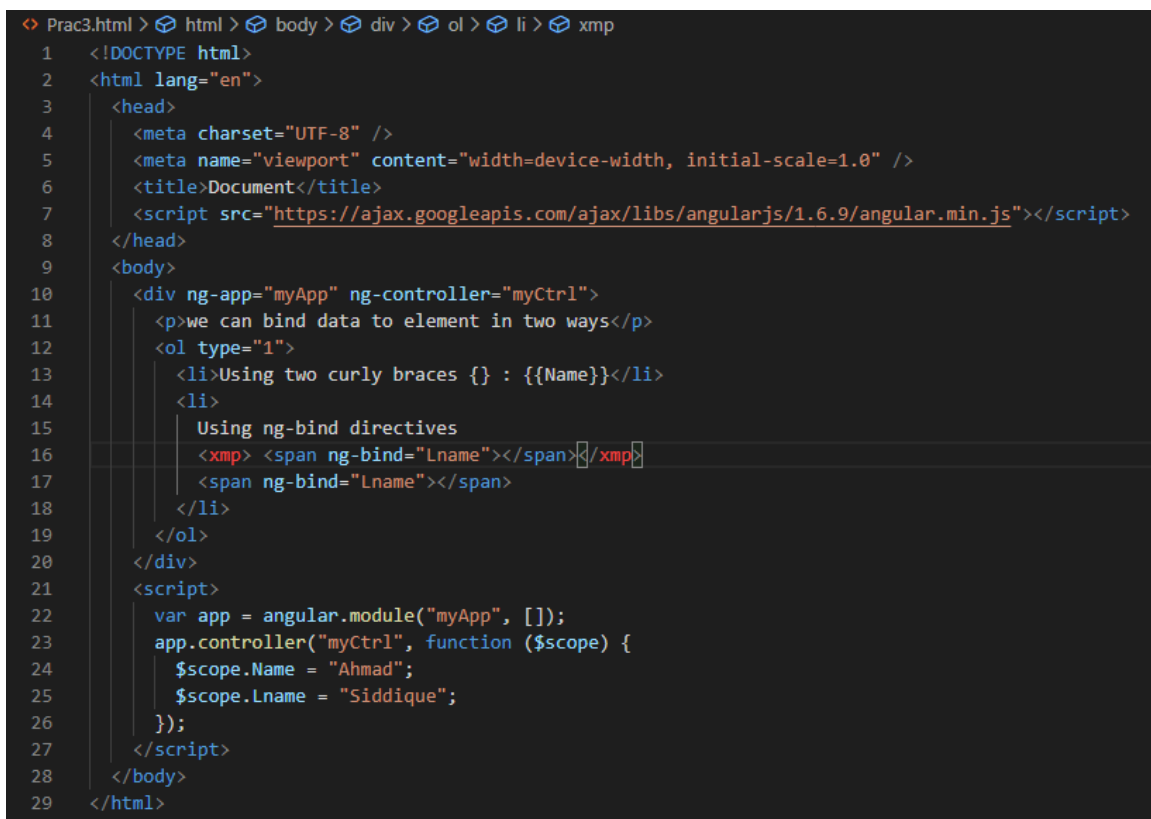
Output:

Practical 3) AngularJS Data-Binding

What is Data Binding in AngularJS?

Data-binding in AngularJS apps is the automatic synchronization of data between the model and view components. While you could push values to and pull values from HTML, the application is easier to write, read, and maintain if you turn these tasks over to a binding framework. You simply declare bindings between binding sources, target HTML elements, and let the framework do the rest
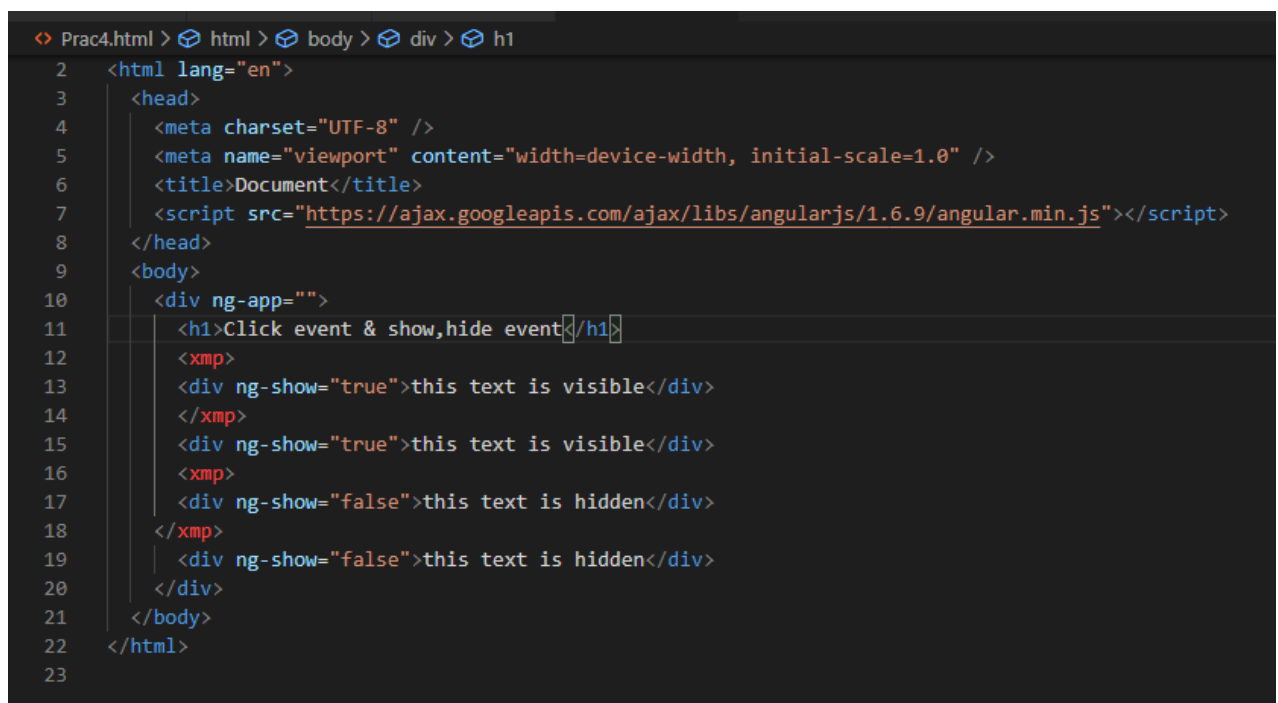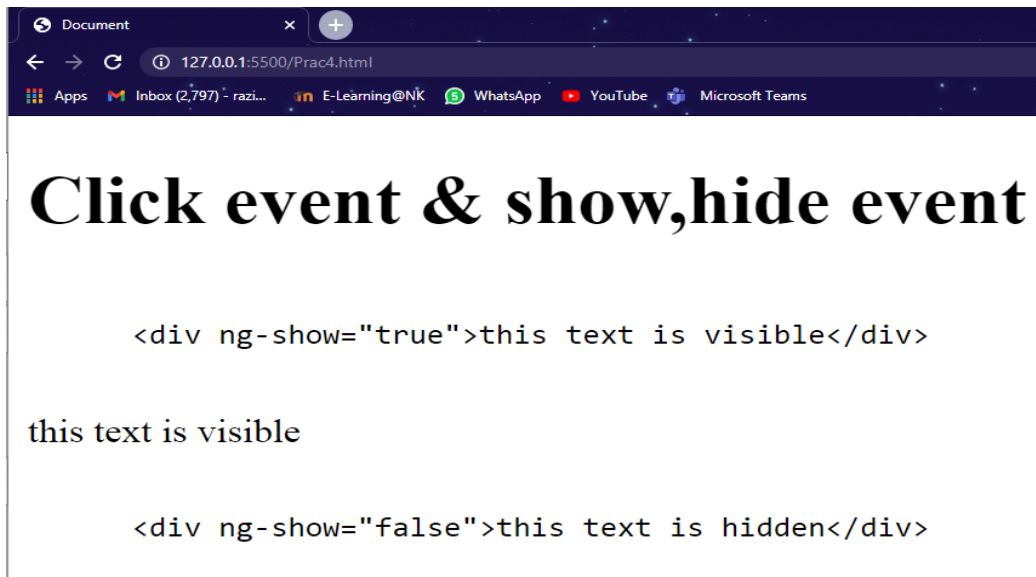
code:

```html
Prac3.html > html > body > div > ol > li > xmp
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="UTF-8" />
    <meta name="viewport" content="width=device-width, initial-scale=1.0" />
    <title>Document</title>
    <script src="https://ajax.googleapis.com/ajax/libs/angularjs/1.6.9/angular.min.js"></script>
  </head>
  <body>
    <div ng-app="myApp" ng-controller="myCtrl">
      <p>we can bind data to element in two ways</p>
      <ol type="1">
        <li>Using two curly braces {} : {{Name}}</li>
        <li>
          Using ng-bind directives
          <xmp> <span ng-bind="Lname"></span></xmp>
          <span ng-bind="Lname"></span>
        </li>
      </ol>
    </div>
    <script>
      var app = angular.module("myApp", []);
      app.controller("myCtrl", function ($scope) {
        $scope.Name = "Ahmad";
        $scope.Lname = "Siddique";
      });
    </script>
  </body>
</html>
```

Output:
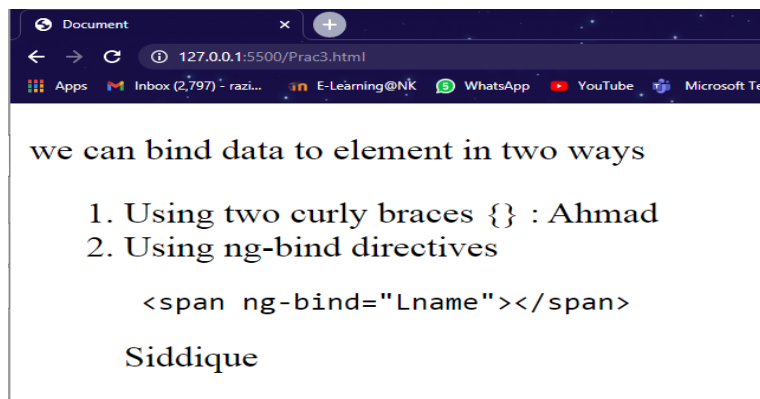
Practical4) : AngularJS Events

What are Events in AngularJS?

AngularJS includes certain directives which can be used to provide custom behaviour on various DOM events, such as click, mouseover etc. An AngularJS event will not overwrite an HTML event, both events will be executed. You can pass the $event object as an argument when calling the function. The $event object contains the browser's event object

Code:

```html
Prac4.html > html > body > div > h1
 2    <html lang="en">
 3      <head>
 4        <meta charset="UTF-8" />
 5        <meta name="viewport" content="width=device-width, initial-scale=1.0" />
 6        <title>Document</title>
 7        <script src="https://ajax.googleapis.com/ajax/libs/angularjs/1.6.9/angular.min.js"></script>
 8      </head>
 9      <body>
10        <div ng-app="">
11          <h1>Click event & show,hide event</h1>
12          <xmp>
13          <div ng-show="true">this text is visible</div>
14          </xmp>
15          <div ng-show="true">this text is visible</div>
16          <xmp>
17          <div ng-show="false">this text is hidden</div>
18        </xmp>
19          <div ng-show="false">this text is hidden</div>
20        </div>
21      </body>
22    </html>
23
```

Output:

Practical 5) : Ionic Create and Build First Project

What is a hybrid app?

Like native apps, run on the device, and are written with web technologies (HTML5, CSS and JavaScript). Hybrid apps run inside a native container, and leverage the device's browser engine (but not the browser) to render the HTML and process the JavaScript locally. A web-to-native abstraction layer enables access to device capabilities that are not accessible in Mobile Web applications, such as the accelerometer, camera and local storage. How to create and web app in Ionic:

Requirements:

1. Node.js with npm in path

Steps for creating Ionic Web app:

1. Install ionic using npm install -g ionic
2. Get ionic info using ionic info
3. To create an ionic app type ionic start <app name>
4. Then it will ask to choose a framework if you want to make it in angular choose angular
5. Then to start running the ionic web page in the server type ionic serve.
6. To access the web page go on http://localhost:8100
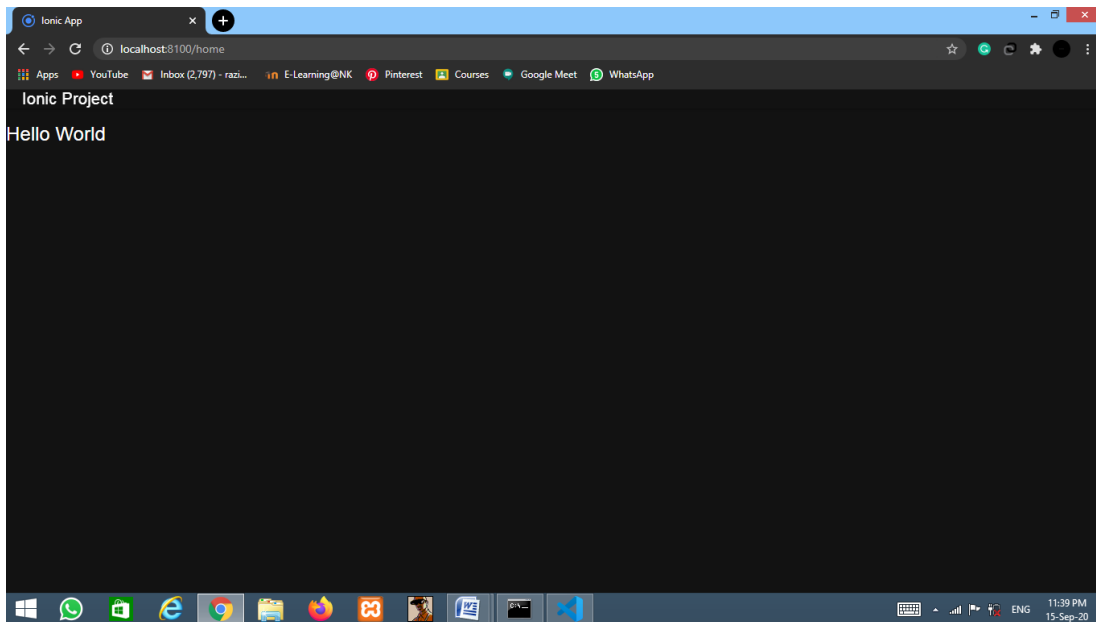
Practical 6) : Ionic Adding Cordova Android Platform

What is Cordova?

Apache Cordova is an open-source mobile development framework. It allows you to use standard web technologies - HTML5, CSS3, and JavaScript for cross-platform development. Applications execute within wrappers targeted to each platform, and rely on standards-compliant API bindings to access each device's capabilities such as sensors, data, network status, etc. Cordova can be used an integration for Ionic to export Ionic web apps to Native mobile applications like an Android APK.

Requirements:

1. Java 8 in path and JAVA_HOME set
2. Android SDK with ANDROID_SDK_ROOT set
3. Gradle in path

Steps to create an ionic android app:

Now in cmd type ionic cordova platform add android .This will add and android platform to your web app directory.

2. Now type ionic cordova build android to start building your android app.

3. Now type ionic cordova run android , If you have connect your machine to a phone and turned on USB debugging the app will export to your pc and if you are running an emulator the out will be like this.
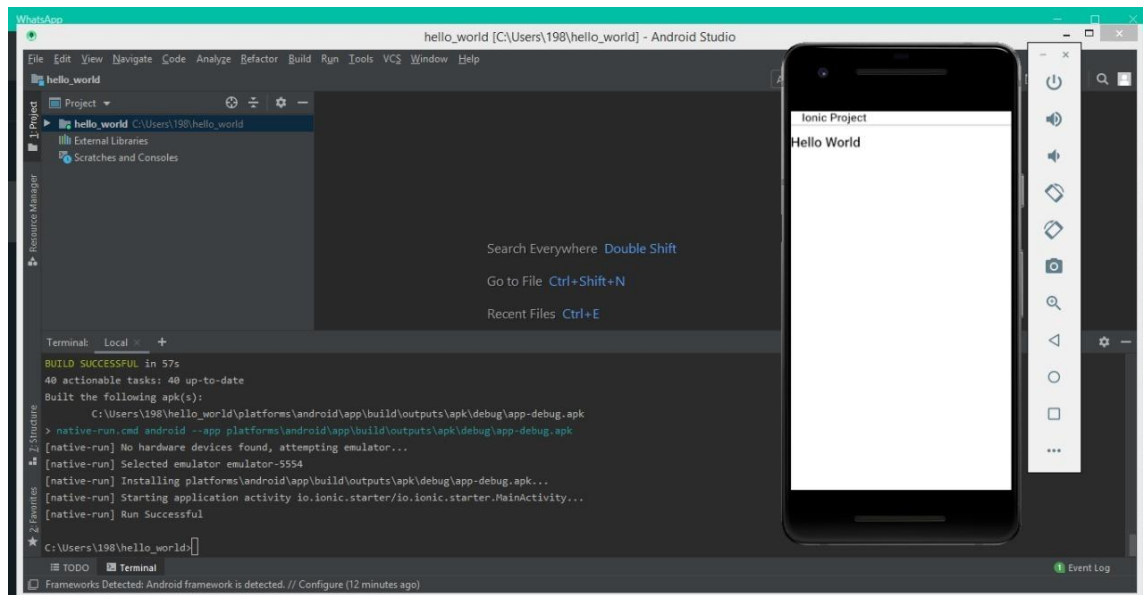
Practical 7) : Ionic Create, Generate and Add Pages

What are Ionic Pages?

An Ionic page is just an Angular component

The Ionic Page handles registering and displaying specific pages based on URLs. It's used underneath NavController so it will never have to be interacted with directly. When a new page is pushed with NavController, the URL is updated to match the path to this page.
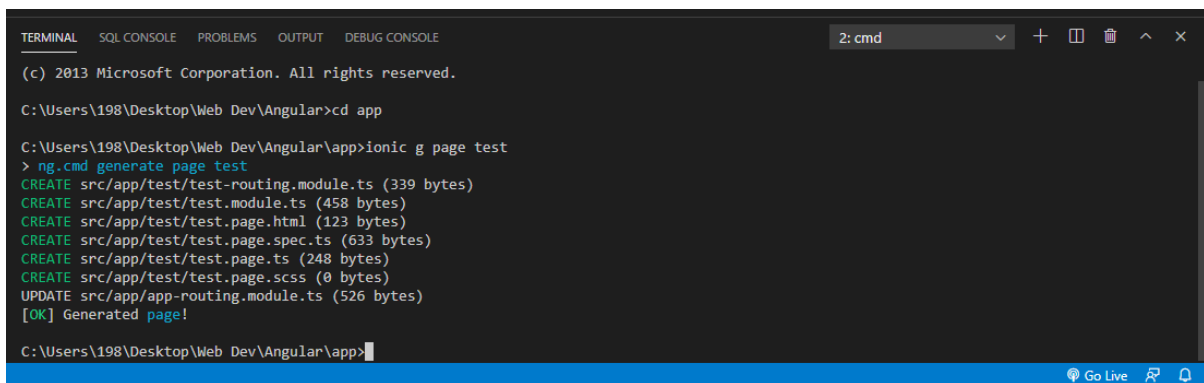
Unlike traditional web apps, URLs don't dictate navigation in Ionic apps. Instead, URLs help us link to specific pieces of content as a breadcrumb. The current URL gets updated as we navigate, but we use the NavController push and pop, or NavPush and NavPop to move around. This makes it much easier to handle complicated nested navigation.

The ionic generate or ionic g command uses the Angular CLI to generate features such as pages, components, directives, services, etc.

Steps:

1. Open command prompt as administrator
2. Create a folder for your ionic project by running md
3. Navigate to the folder by running cd
4. To create an ionic app run ionic start blank
5. Then it will ask to choose a framework so choose `AngularJS`

6. Navigate to the folder by running cd

7. To generate and add a page run ionic g page

8. This will create a folder with all the components of your page in {project_root}\src\app\{page_name}

9. Then to start running the ionic web page on the server type ionic serve 10. To access the web page go on http://localhost:8100/{page_name}
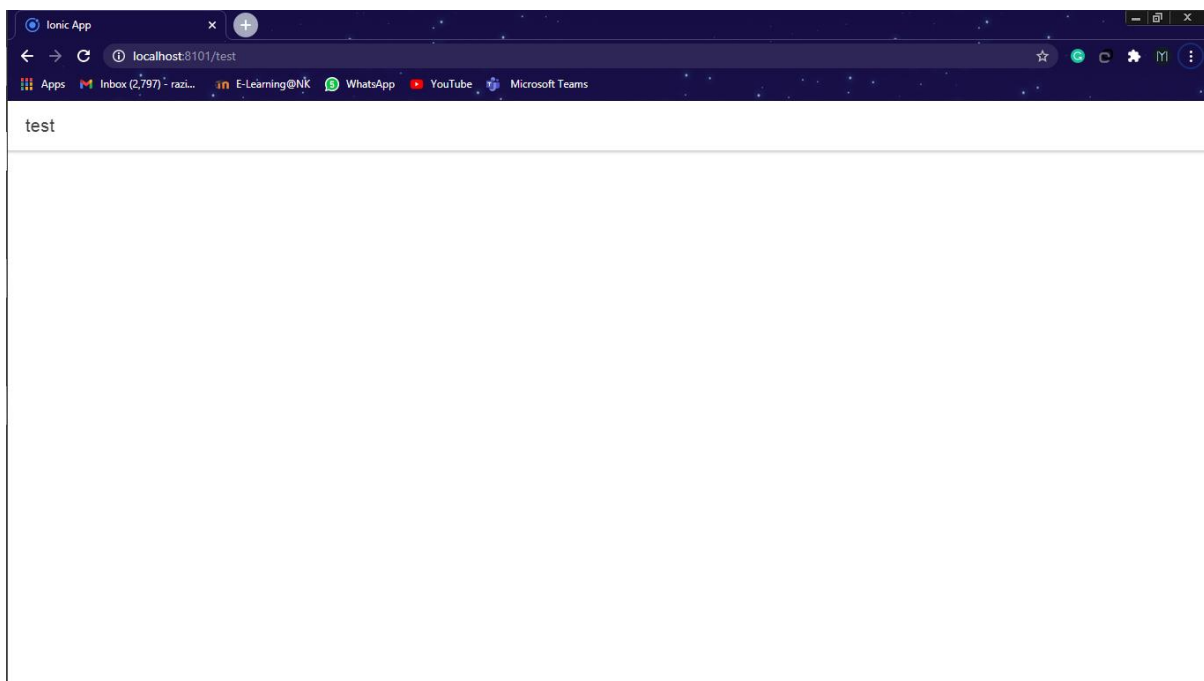
Practical 8) : Ionic Use Tabs Starter Template

What are Ionic Starter Templates?

Ionic Starter Templates are ready-to-go starter packs for your next Ionic app.

Between all project types, there are three templates available:
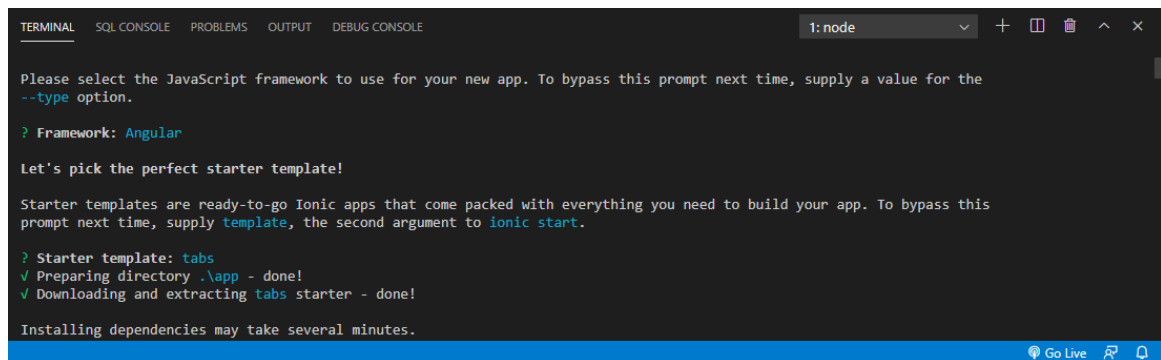
- tabs: A tab-based layout
- sidemenu: A sidemenu based layout
- blank: An empty project with a single page

We will be using 'tabs' in the practical

Steps:

1. Open command prompt as administrator
2. Create a folder for your ionic project by running
3. Navigate to the folder by running
4. To create an ionic app run
5. Then it will ask to choose a framework so choose

6. Navigate to the folder by running

7. Then to start running the ionic web page on the servertype

8. To access the web page, go on http://localhost:8100