



**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

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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: 376

**Subject: Hybrid Application Development
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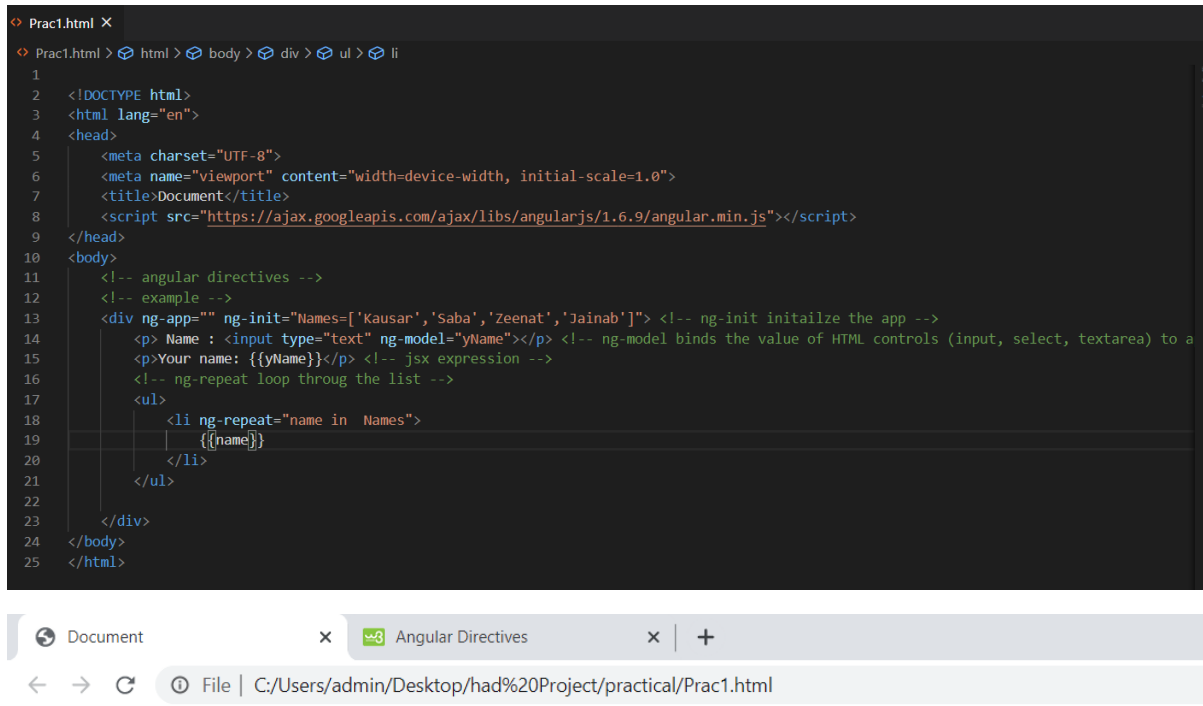
Sr. No	Date	Topic	Sign
1	27/07/2020	AngularJS Data Binding	
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Hybride Application Develoment Practical

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.



```
1
2 <!DOCTYPE html>
3 <html lang="en">
4 <head>
5   <meta charset="UTF-8">
6   <meta name="viewport" content="width=device-width, initial-scale=1.0">
7   <title>Document</title>
8   <script src="https://ajax.googleapis.com/ajax/libs/angularjs/1.6.9/angular.min.js"></script>
9 </head>
10 <body>
11   <!-- angular directives -->
12   <!-- example -->
13   <div ng-app="" ng-init="Names=['Kausar','Saba','Zeenat','Jainab']"> <!-- ng-init initailze the app -->
14     <p> Name : <input type="text" ng-model="yName"></p> <!-- ng-model binds the value of HTML controls (input, select, textarea) to a
15     <p>Your name: {{yName}}</p> <!-- jsx expression -->
16     <!-- ng-repeat loop through the list -->
17     <ul>
18       <li ng-repeat="name in Names">
19         {{name}}
20       </li>
21     </ul>
22   </div>
23 </body>
24 </html>
```

Document x Angular Directives x +

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Name :

Your name: Kausar

- Kausar
- Saba
- Zeenat
- Jainab

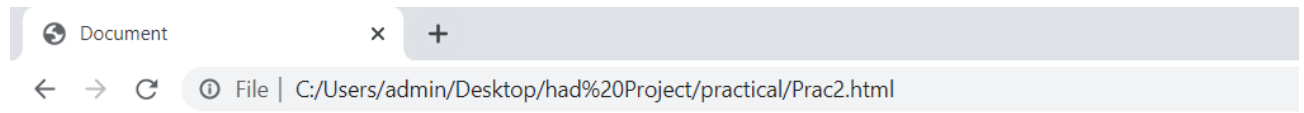
Practical 2) AngularJS Controllers

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:

```
Prac2.html > html > body > script > app.controller('myCtrl') callback
1 <!DOCTYPE html>
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
11   <!-- ng-controller AngularJS applications are controlled by controllers. -->
12   <div ng-app="myApp" ng-controller="myCtrl">
13     Name: <input type="text" ng-model="Name"> <br><br>
14     Gender : <input type="text" ng-model="gender">
15
16     <p>{{Name + ' is ' + gender}}</p>
17   </div>
18   <script>
19
20     var app = angular.module('myApp', []); // The AngularJS application is defined by ng-app="myApp".
21     app.controller('myCtrl', function($scope) { //The ng-controller="myCtrl" attribute is an AngularJS directive. It defines a controller.
22       $scope.Name = "Kausar";
23       $scope.gender = "Female";
24     });
25   </script>
26 </body>
27 </html>
```



Name: Kausar

Gender : Female

Kausar is Female

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:

```
Prac3.html > html > body > div > p > span
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    <!-- data binding AngularJS applications usually have a data model.-->
11    <div ng-app="myApp" ng-controller="myCtrl">
12      <p>Exame of data-binding With jsx Expression: {{Hobby}}</p>
13      <p>Example of data-binding With ng-directive :<span ng-bind="Hobby2"></span></p>
14    </div>
15    <script>
16      var app = angular.module("myApp", []);
17      app.controller("myCtrl", function ($scope) {
18        $scope.Hobby = "Drawing";
19        $scope.Hobby2 = "Singing";
20      });
21    </script>
22  </body>
23 </html>
24
```

Document x +

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Example of data-binding With jsx Expression: Drawing

Example of data-binding With ng-directive :Singing

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:

```
Prac4.html > html > body > script > app.controller("myCtrl") callback > tog
1 <!DOCTYPE html>
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    <!-- Events You can add AngularJS event listeners to your HTML elements by using one or more of these directives:-->
11
12    <!-- Mouse Events -->
13    <div ng-app="myApp" ng-controller="myCtrl">
14      <h1>Click event & show,hide (Toggle) event</h1>
15      <button ng-click="tog()">Toggle</button>
16      <div ng-show="showMe">
17        this is some example text for toggle event
18      </div>
19    </div>
20    <script>
21      var app = angular.module("myApp", []);
22      app.controller("myCtrl", function ($scope) {
23        $scope.count = 0;
24        $scope.showMe = false;
25        $scope.tog = function(){}
26        $scope.showMe = !$scope.showMe;
27      });
28    </script>
29  </body>
30 </html>
```

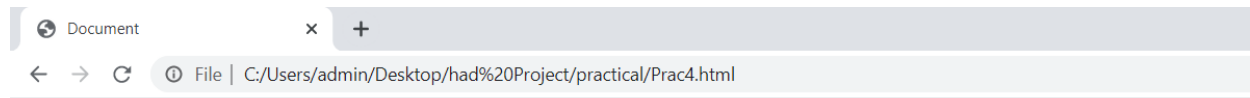
Document x +

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Click event & show,hide (Toggle) event

Toggle

this is some example text for toggle event



Click event & show,hide (Toggle) event

Toggle

Practical 5: Ionic Create and Build First Project

What is a hybrid app?

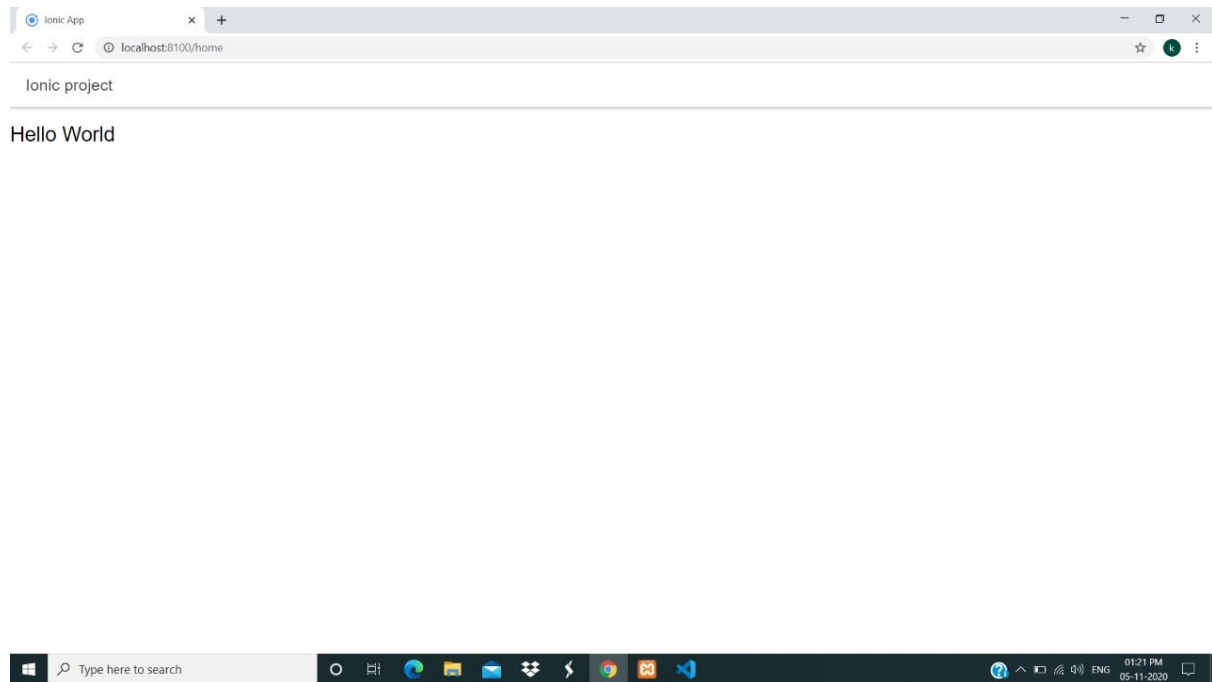
Like native apps, run on the device, and are written with web technologies (HTML5, CSS and JavaScript). Hybrid apps run inside a native container, and leverage the device's browser engine (but not the browser) to render the HTML and process the JavaScript locally. A web-to-native abstraction layer enables 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 as an integration for Ionic to export Ionic web apps to Native mobile applications like an Android APK.

Requirements:

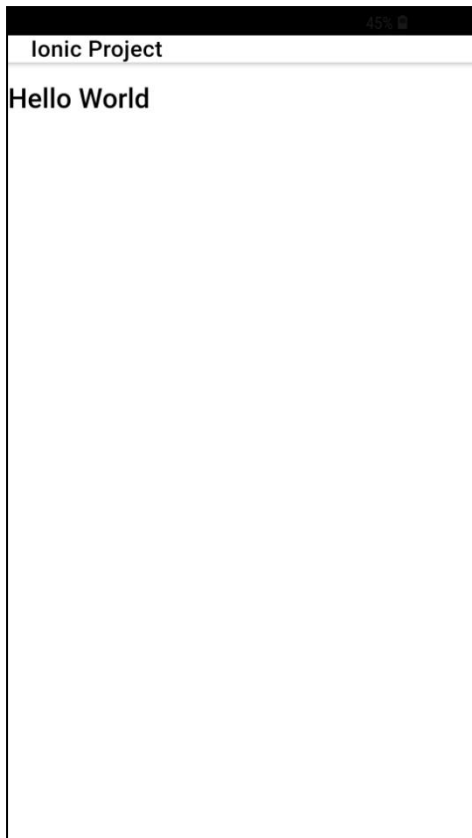
1. Java 8 in path and JAVA_HOME set
2. Android SDK with ANDROID_SDK_ROOT set
3. Gradle in path

Steps to create an ionic android app:

Now in cmd type `ionic cordova platform add android`. This will add an 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 connected 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 output 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.

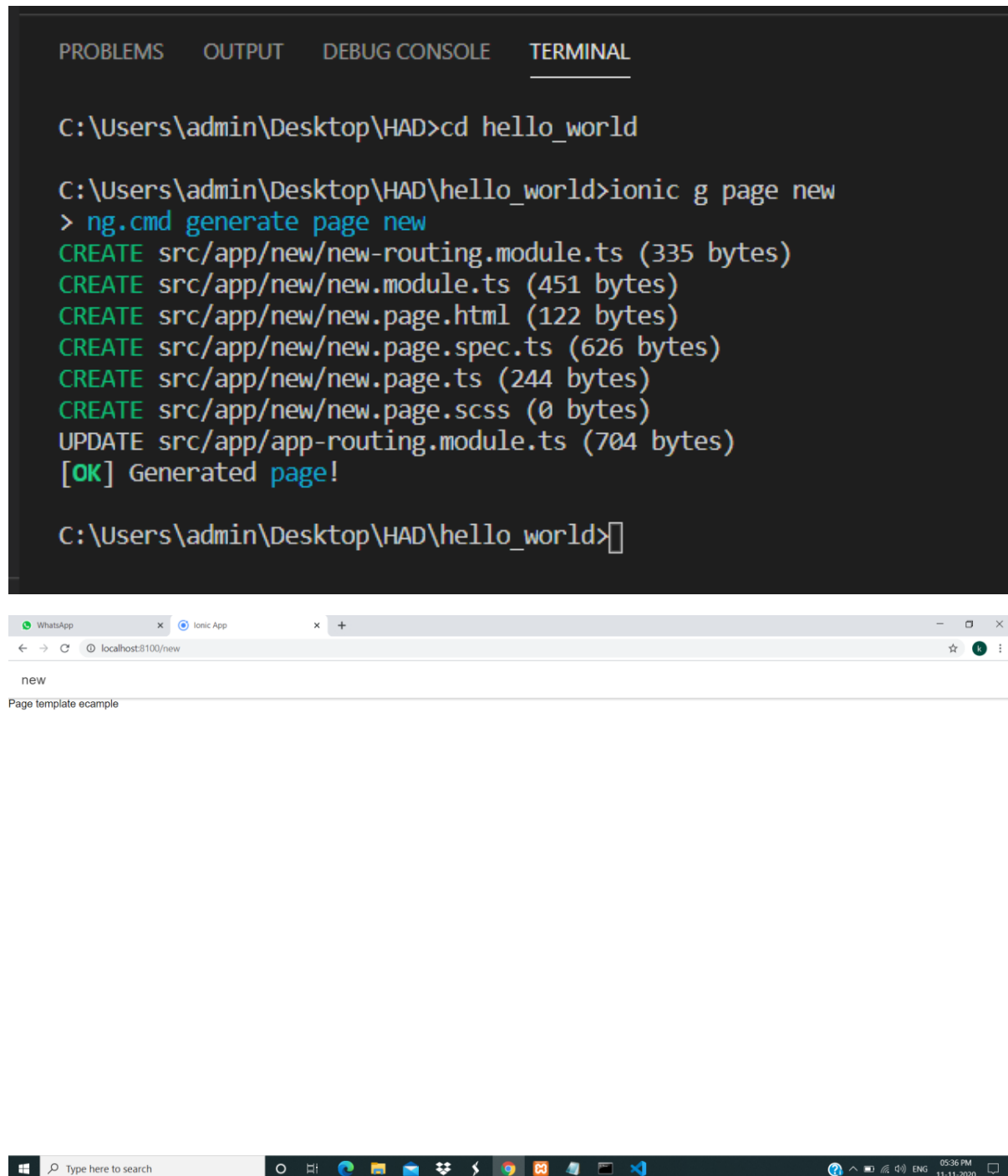
Unlike traditional web apps, URLs don't dictate navigation in Ionic apps. Instead, URLs help us link to specific pieces of content as a breadcrumb. The current URL gets updated as we navigate, but we use the NavController push and pop, or NavPush and NavPop to move around. This makes it much easier to 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.

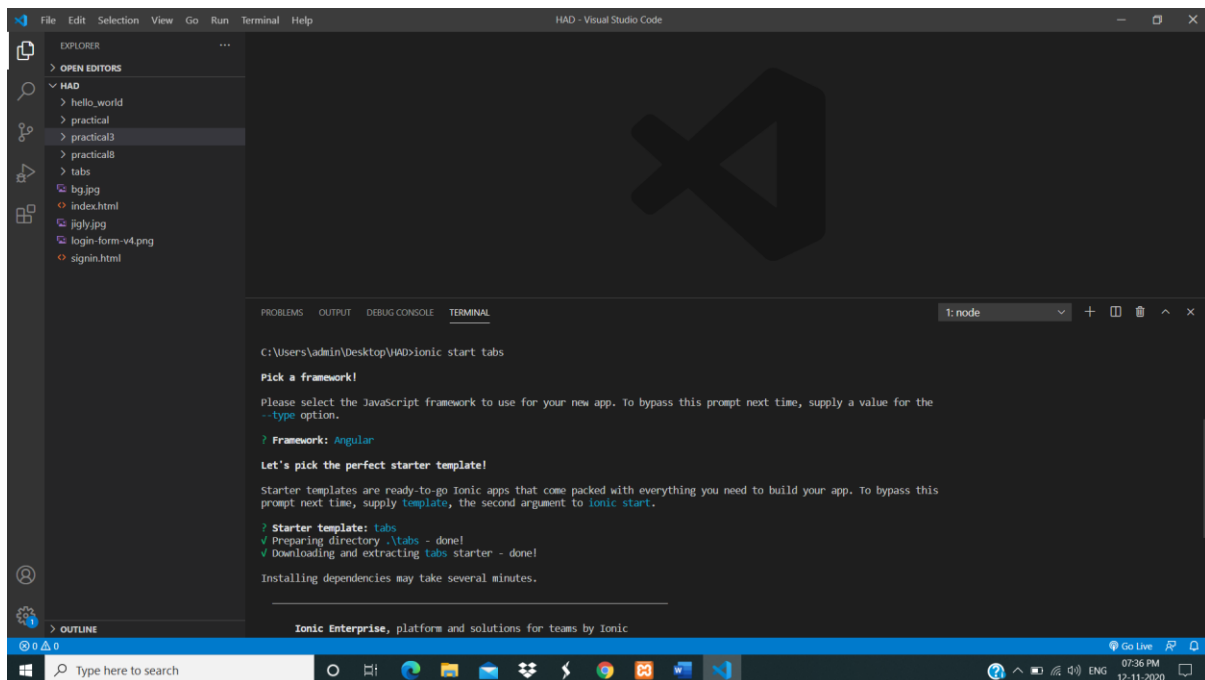
Between all project types, there are three templates available:

- 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 server type
8. To access the web page, go on <http://localhost:8100>



```
File Edit Selection View Go Run Terminal Help
HAD - Visual Studio Code

EXPLORER
  > OPEN EDITORS
  > HAD
    > hello_world
    > practical
    > practical3
    > practical8
    > tabs
    > bg.jpg
    > index.html
    > jggy.jpg
    > login-form-v4.png
    > signin.html

TERMINAL
  1: node
  C:\Users\admin\Desktop\HAD>ionic start tabs
  Pick a framework!
  Please select the JavaScript framework to use for your new app. To bypass this prompt next time, supply a value for the
  --type option.
  ? Framework: Angular
  Let's pick the perfect starter template!
  Starter templates are ready-to-go Ionic apps that come packed with everything you need to build your app. To bypass this
  prompt next time, supply template, the second argument to ionic start.
  ? Starter template: tabs
  ✓ Preparing directory .\tabs - done!
  ✓ Downloading and extracting tabs starter - done!
  Installing dependencies may take several minutes.

  Ionic Enterprise, platform and solutions for teams by Ionic
```

