



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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Roll No: 382

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
382____

Roll No:

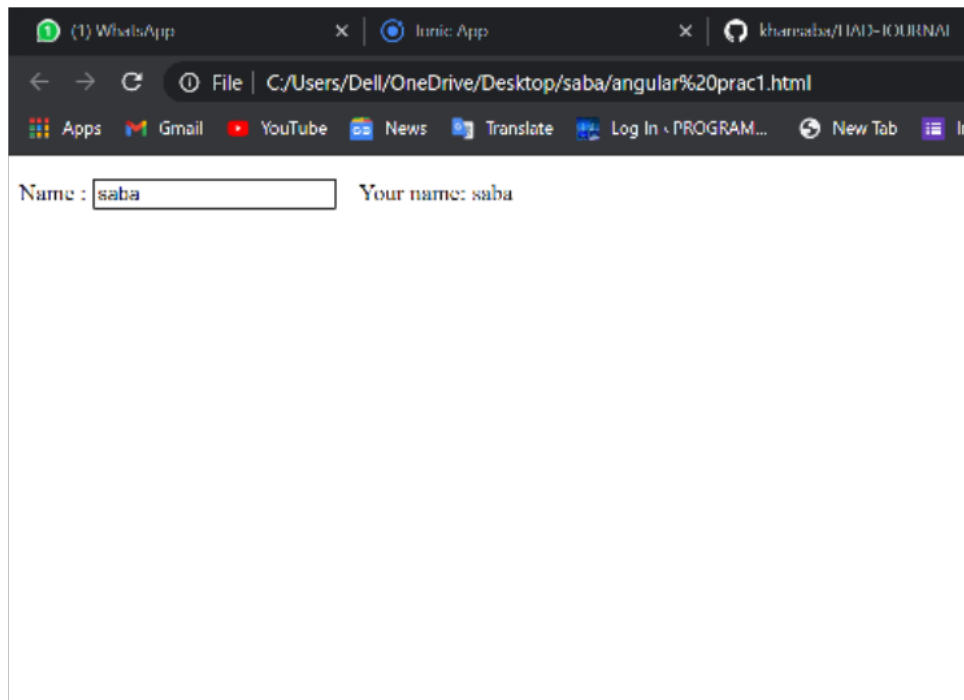
Subject: Hybrid Application Development

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Output:



Practical 2: AngularJS Controllers

Aim:

Write a program to create AngularJS Controllers

Theory:

AngularJS controllers control the data of AngularJS applications.

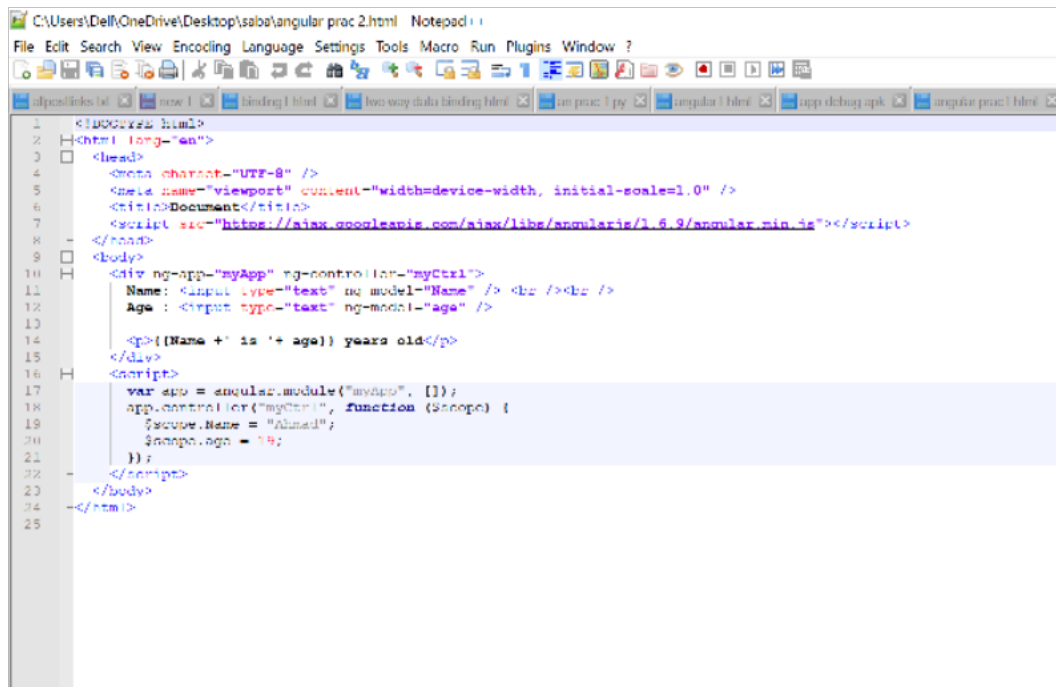
AngularJS controllers are regular JavaScript Objects.

AngularJS applications are controlled by controllers.

The ng-controller directive defines the application controller.

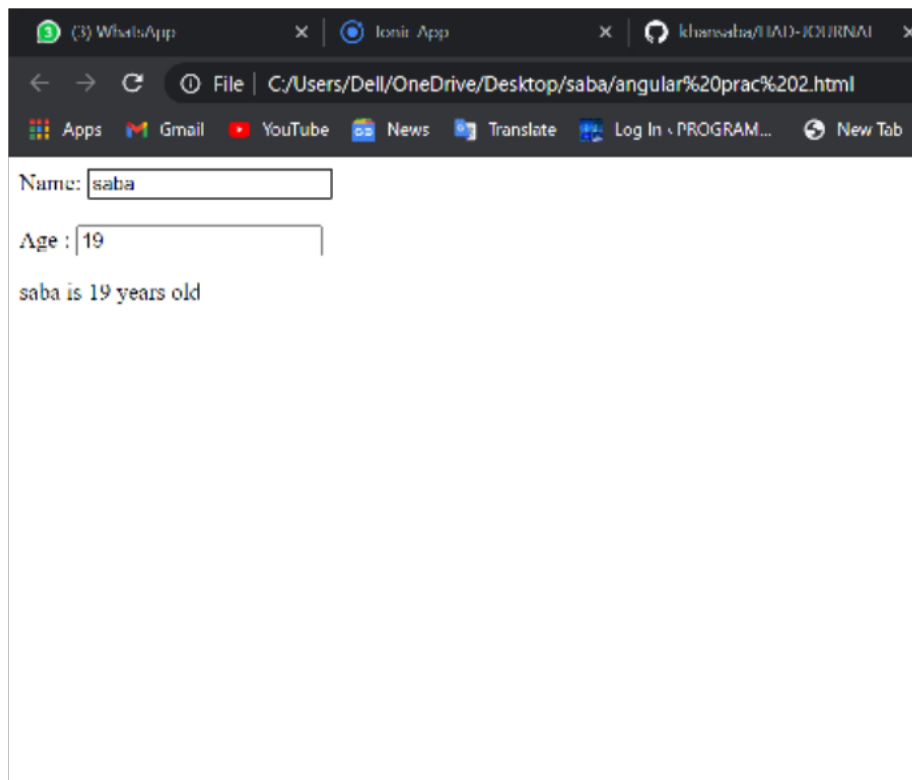
A controller is a JavaScript Object, created by a standard JavaScript **object** constructor.

Code:



```
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   <div ng-app="myApp" ng-controller="myCtrl">
11     Name: <input type="text" ng-model="Name" /> <br /><br />
12     Age : <input type="text" ng-model="Age" />
13
14     <p>{{Name + ' is ' + age}} years old</p>
15   </div>
16   <script>
17     var app = angular.module("myapp", []);
18     app.controller("myCtrl", function ($scope) {
19       $scope.Name = "Almas";
20       $scope.age = 19;
21     });
22   </script>
23 </body>
24 </html>
25
```

Output:



Practical 3: AngularJS Data-Binding

Aim:

Write a program to create AngularJS Data-Binding

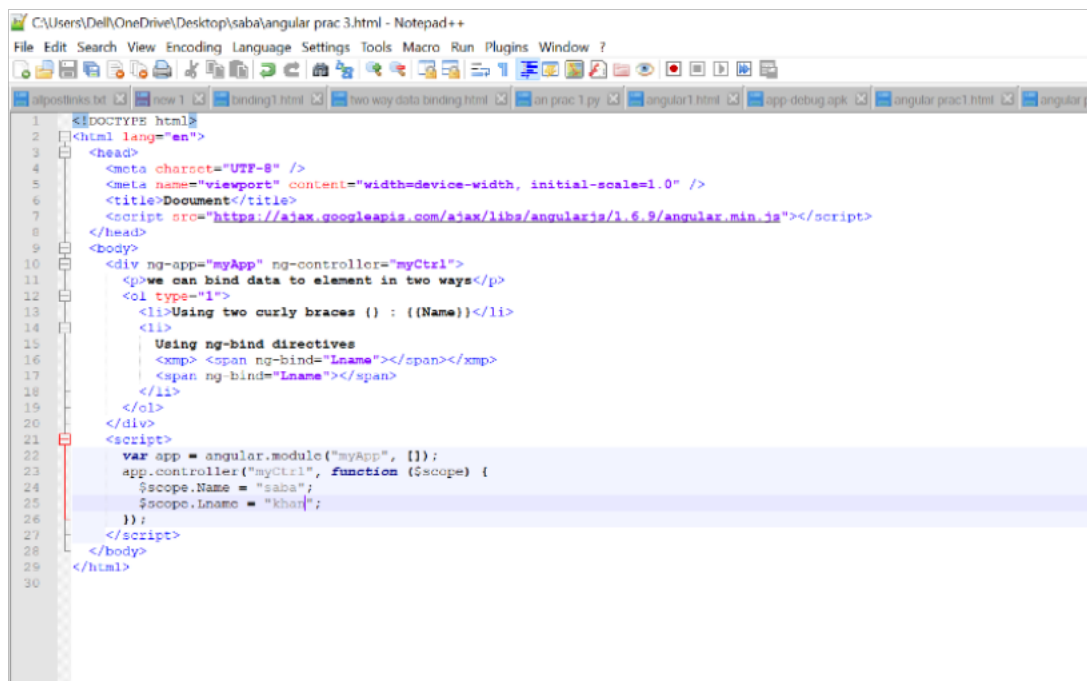
Theory:

Data binding in AngularJS is the synchronization between the model and the view. The way that AngularJS implements data-binding lets you treat the model as the single-source-of-truth in your application.

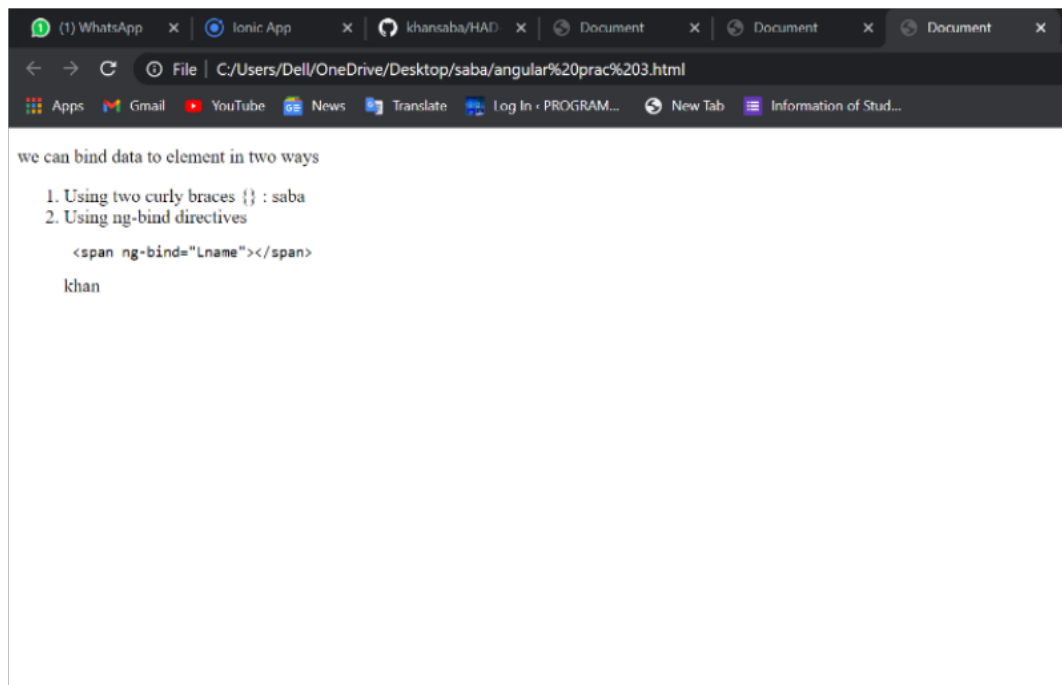
AngularJS applications usually have a data model. The data model is a collection of data available for the application.

Use the ng-bind directive, which will bind the inner HTML of the element to the specified model property:

Code:

A screenshot of a Notepad++ text editor window. The title bar shows the file path 'C:\Users\Debi\OneDrive\Desktop\saba\angular prac 3.html - Notepad++'. The menu bar includes File, Edit, Search, View, Encoding, Language, Settings, Tools, Macro, Run, Plugins, and Window. The toolbar contains various icons for file operations and editing. The editor has several tabs open: 'allpostlinks.txt', 'new 1', 'binding1.html', 'two way data binding.html', 'an prac 1.py', 'angular1.html', 'app debug.apk', 'angular pract.html', and 'angular pr'. The code in the editor is as follows:

```
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 <div ng-app="myApp" ng-controller="myCtrl">
11 <p>we can bind data to element in two ways</p>
12 <ol type="1">
13 <li>Using two curly braces {} : {{Name}}</li>
14 <li>
15 Using ng-bind directives
16 <xmp> <span ng-bind="Lname"></span></xmp>
17 <span ng-bind="Lname"></span>
18 </li>
19 </ol>
20 </div>
21 <script>
22 var app = angular.module("myApp", []);
23 app.controller("myCtrl", function ($scope) {
24 $scope.Name = "saba";
25 $scope.Lname = "khan";
26 });
27 </script>
28 </body>
29 </html>
30
```


Output:

Practical 4: AngularJS Events

Aim:

Write a program to create AngularJS Events.

Theory:

AngularJS has its own HTML events directives.

The event directives allows us to run AngularJS functions at certain user events.

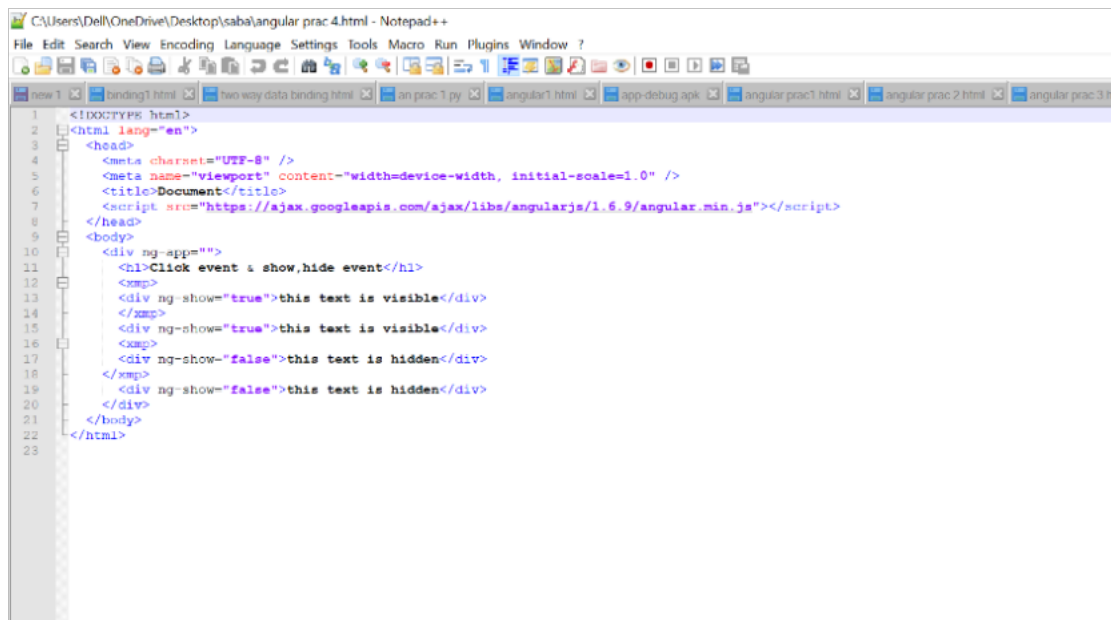
An AngularJS event will not overwrite an HTML event, both events will be executed.

Add AngularJS event listeners to your HTML elements by using one or more of these directives:

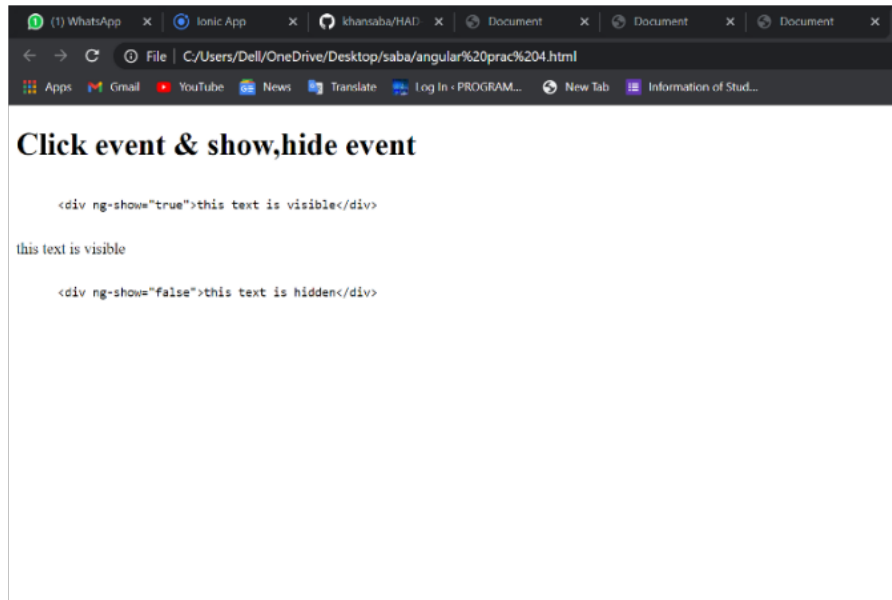
Toggle, True/False:

Show a section of HTML code when a button is clicked, and hide when the button is clicked again

Code:

A screenshot of a Notepad++ window titled 'C:\Users\Delhi\OneDrive\Desktop\saba\angular prac 4.html - Notepad++'. The window shows a code editor with HTML code for an AngularJS application. The code includes a head section with meta tags for charset, viewport, and title, and a script tag for AngularJS. The body section contains an AngularJS app with a click event and show/hide events. The code is as follows:

```
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 <div ng-app="">
11 <h1>Click event & show,hide event</h1>
12 <div ng-show="true">this text is visible</div>
13 </div>
14 <div ng-show="true">this text is visible</div>
15 </div>
16 <div ng-show="false">this text is hidden</div>
17 </div>
18 <div ng-show="false">this text is hidden</div>
19 </div>
20 </body>
21 </html>
```

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 ionic web app:

The requirement for creating an Ionic web app is:

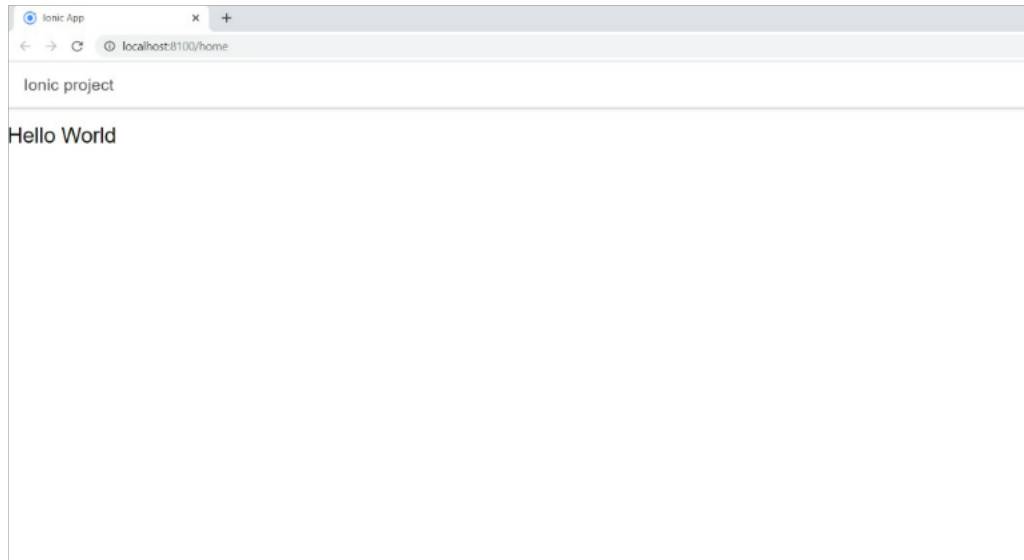
Node Js

NPM

Run the below commands in the command prompt or terminal

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`

Output:**How to create and Ionic Android app:**

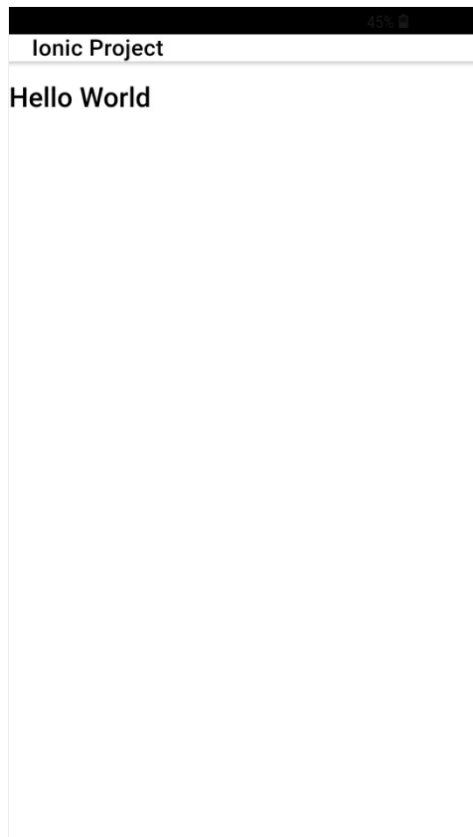
Steps to create an ionic android app:

1. 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.

Old Rollno: 3093

Name: Saba khan

New Rollno: 382



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.

Old Rollno: 3093

Name: Saba khan

New Rollno: 382

Output:



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.

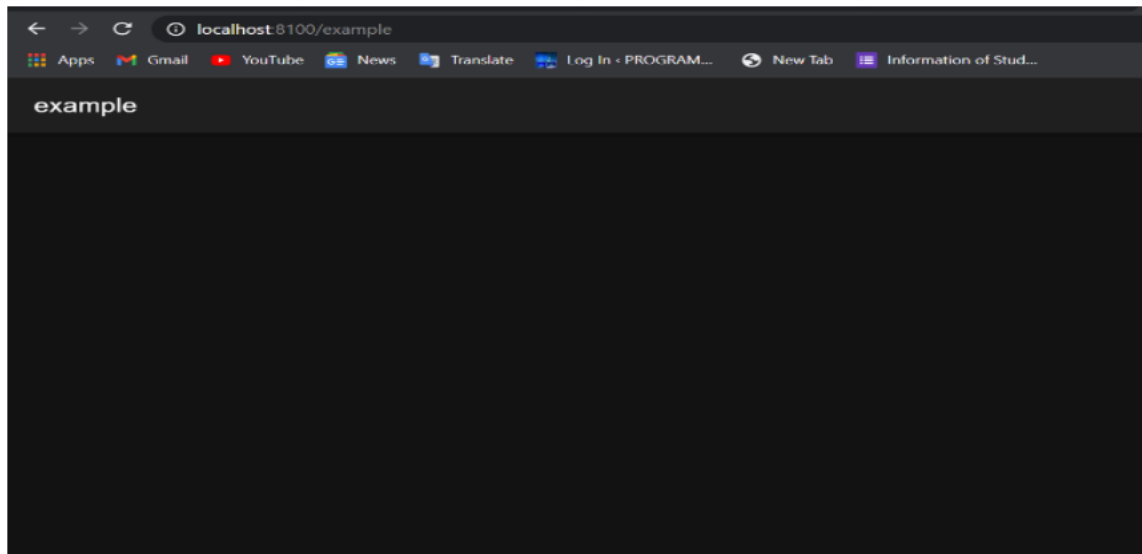
Steps:

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}

Output:

```
C:\Users\Dell\ionic1>ionic g page example
> ng.cmd generate page example --project=app
CREATE src/app/example/example-routing.module.ts (351 bytes)
CREATE src/app/example/example.module.ts (479 bytes)
CREATE src/app/example/example.page.html (126 bytes)
CREATE src/app/example/example.page.spec.ts (654 bytes)
CREATE src/app/example/example.page.ts (260 bytes)
CREATE src/app/example/example.page.scss (0 bytes)
UPDATE src/app/app-routing.module.ts (538 bytes)
[OK] Generated page!

C:\Users\Dell\ionic1>.
```



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>

Output:

```
Windows PowerShell
Microsoft Windows [Version 10.0.19041.572]
(c) 2020 Microsoft Corporation. All rights reserved.

C:\Users\Dell>ionic start ionic1

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 .\ionic1 in 2.43ms
✓ Downloading and extracting tabs starter in 322.82ms
? Integrate your new app with Capacitor to target native iOS and Android? Yes
> ionic integrations enable capacitor --quiet -- ionic1 io.ionic.starter
> npm.cmd i --save -E @capacitor/core
npm notice created a lockfile as package-lock.json. You should commit this file.
+ @capacitor/core@2.4.2
added 2 packages from 2 contributors and audited 2 packages in 0.691s
found 0 vulnerabilities

> npm.cmd i -D -E @capacitor/cli
+ @capacitor/cli@2.4.2
```

