



**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: 373

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.

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External Examiner

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Mr. Gangashankar Singh  
(Subject-In-Charge)

Date of Examination:

(College Stamp)

**Class: S.Y. B.Sc. IT Sem- III**

**Roll No: 373**

**Subject: Hybrid Application Development  
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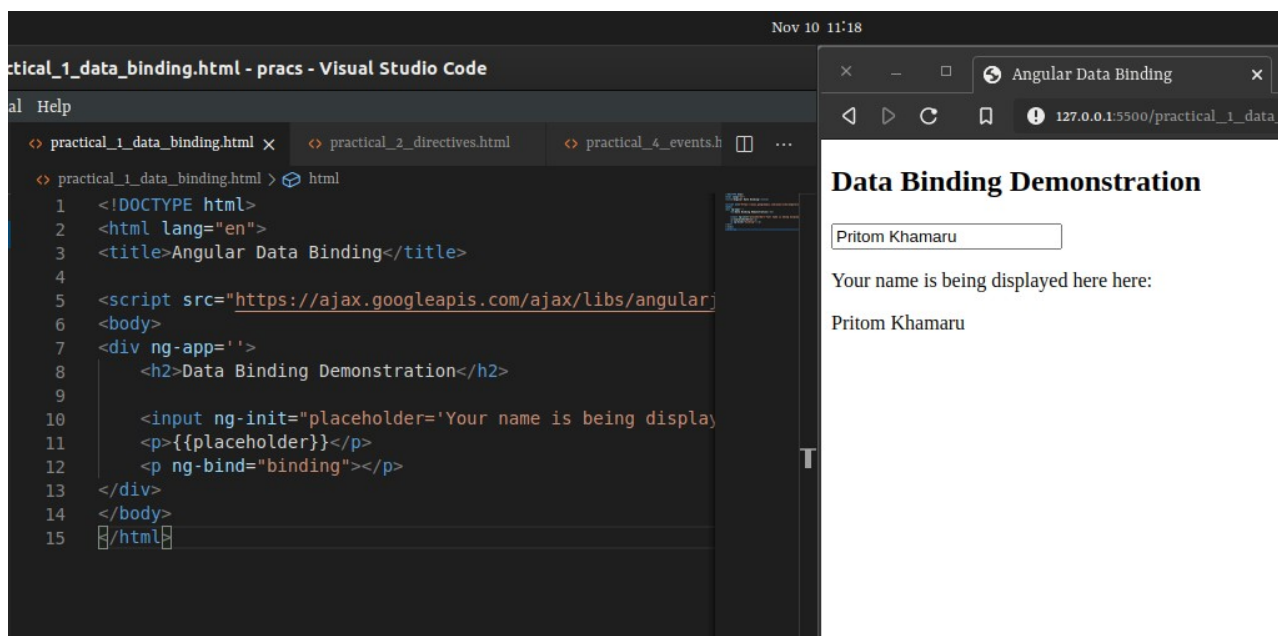
<b>Sr. No</b>	<b>Date</b>	<b>Topic</b>	<b>Sign</b>
<b>1</b>	<b>27/07/2020</b>	<b>AngularJS Data Binding</b>	
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# Practical 1: Data Binding

## 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 & Output :



The screenshot displays the Visual Studio Code editor with a file named `practical_1_data_binding.html` open. The code is an HTML document that uses AngularJS for data binding. It includes a script tag for the AngularJS library and a `ng-app` directive. The application contains a heading, an input field with an `ng-init` directive, and two paragraphs. The first paragraph uses `{{placeholder}}` for interpolation, and the second paragraph uses `ng-bind="binding"` for binding. The browser output on the right shows the rendered page titled "Data Binding Demonstration". It features an input field containing the text "Pritom Khamaru". Below the input field, the text "Your name is being displayed here here:" is shown, followed by the text "Pritom Khamaru", demonstrating the successful data binding.

```
practical_1_data_binding.html - pracs - Visual Studio Code
al Help
practical_1_data_binding.html x practical_2_directives.html practical_4_events.h ...
practical_1_data_binding.html > html
1 <!DOCTYPE html>
2 <html lang="en">
3 <title>Angular Data Binding</title>
4
5 <script src="https://ajax.googleapis.com/ajax/libs/angularj
6 <body>
7 <div ng-app=''>
8   <h2>Data Binding Demonstration</h2>
9
10   <input ng-init="placeholder='Your name is being display
11   <p>{{placeholder}}</p>
12   <p ng-bind="binding"></p>
13 </div>
14 </body>
15 </html>
```

Angular Data Binding

### Data Binding Demonstration

Your name is being displayed here here:

Pritom Khamaru

# Practical 2: 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 & Output :

practical\_1\_data\_binding.html

practical\_2\_directives.html x

practical\_4\_events.html

practical\_2\_directives.html

html

body

div

script

```
1 <!DOCTYPE html>
2
3 <html lang="en">
4 <title>AngularJS Directives</title>
5
6 <script src="https://ajax.googleapis.com/ajax/libs/angularjs/1.2.26/angular.min.js"></script>
7
8 <div ng-app="myApp" ng-init="names=[
9   {name:'Jani',country:'Norway'},
10  {name:'Hege',country:'Sweden'},
11  {name:'Kai',country:'Denmark'}]">
12   <h2>Some built-in directives are ng-app, ng-init, ng-repeat, ng-bind, ng-init, ng-repeat, ng-model, ng-bind
13   <ul>
14     <li ng-repeat="x in names">
15       {{ x.name + ', ' + x.country }}
16     </li>
17   </ul>
18   Quantity: <input type="number" ng-model="quantity">
19   <br><br>
20   Costs: <input type="text" value="1234">
21   <br><br>
22   Quantity:
23   <div ng-bind="quantity" style="display:inline;"></div>
24   <br><br>
25   Cost per unit:
26   <div ng-bind="price" style="display:inline;"></div>
27   <p>Total : {{ quantity * price }}</p>
28   <h2>In addition to all the built-in AngularJS directive
29
30   <custom-directive></custom-directive>
31   <script>
32     const app = angular.module("myApp", []);
33
34     app.directive("customDirective", function() {
35       return {
36         template : "<p style='font-style: italic; font-size: 1.2em;'>This was made by a custom directive"
37       };
38     });
39   </script>
40 </div>
41 </body>
42 </html>
```

Some built-in directives are ng-app, ng-init, ng-repeat, ng-model, ng-bind

- Jani, Norway
- Hege, Sweden
- Kai, Denmark

Quantity:

Costs:

Quantity: 5

Cost per unit: 1234

Total: 6170\$

In addition to all the built-in AngularJS directives, you can create your own directives.

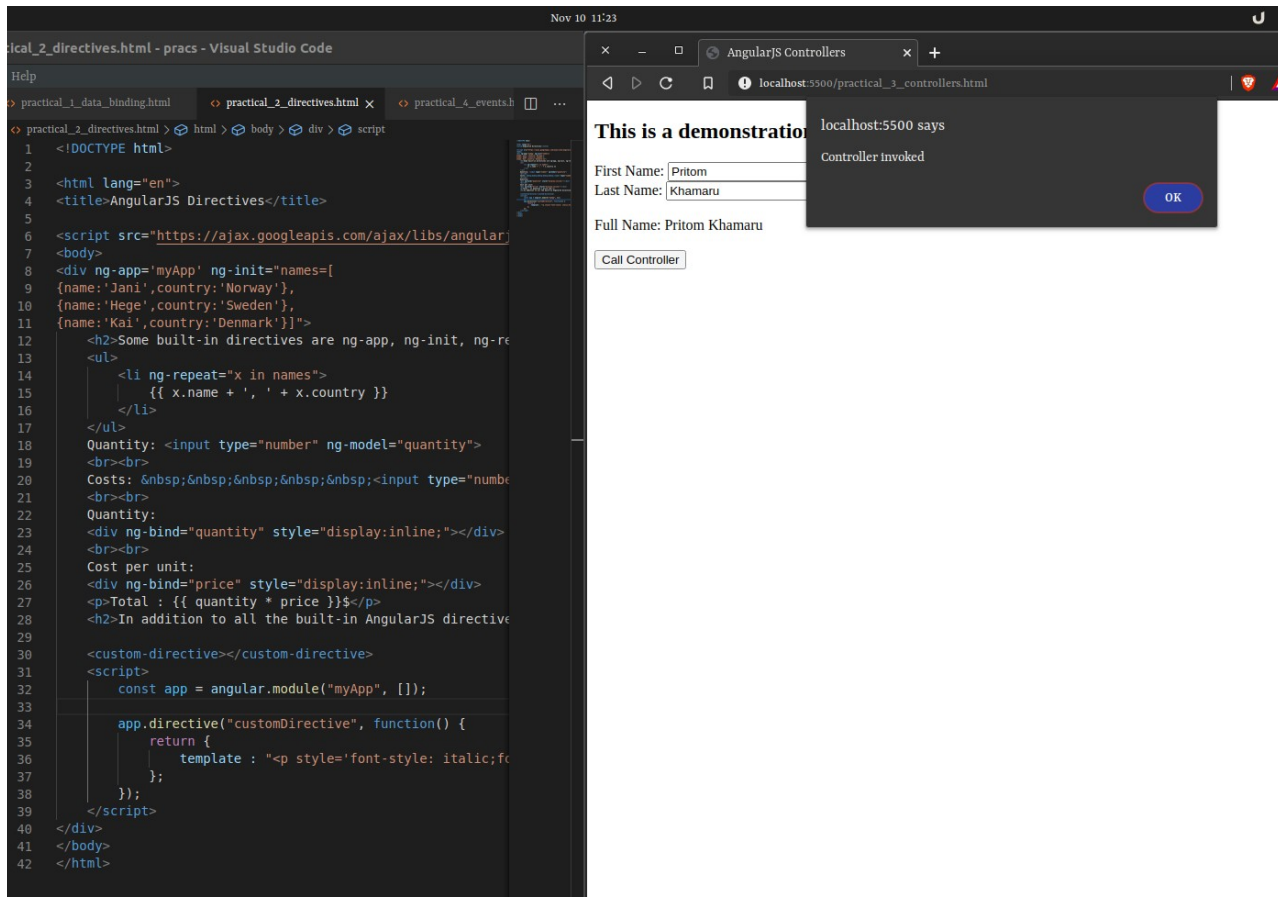
This was made by a custom directive

## Practical 3: 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 & Output :



## Practical 4 : AngularJS Events

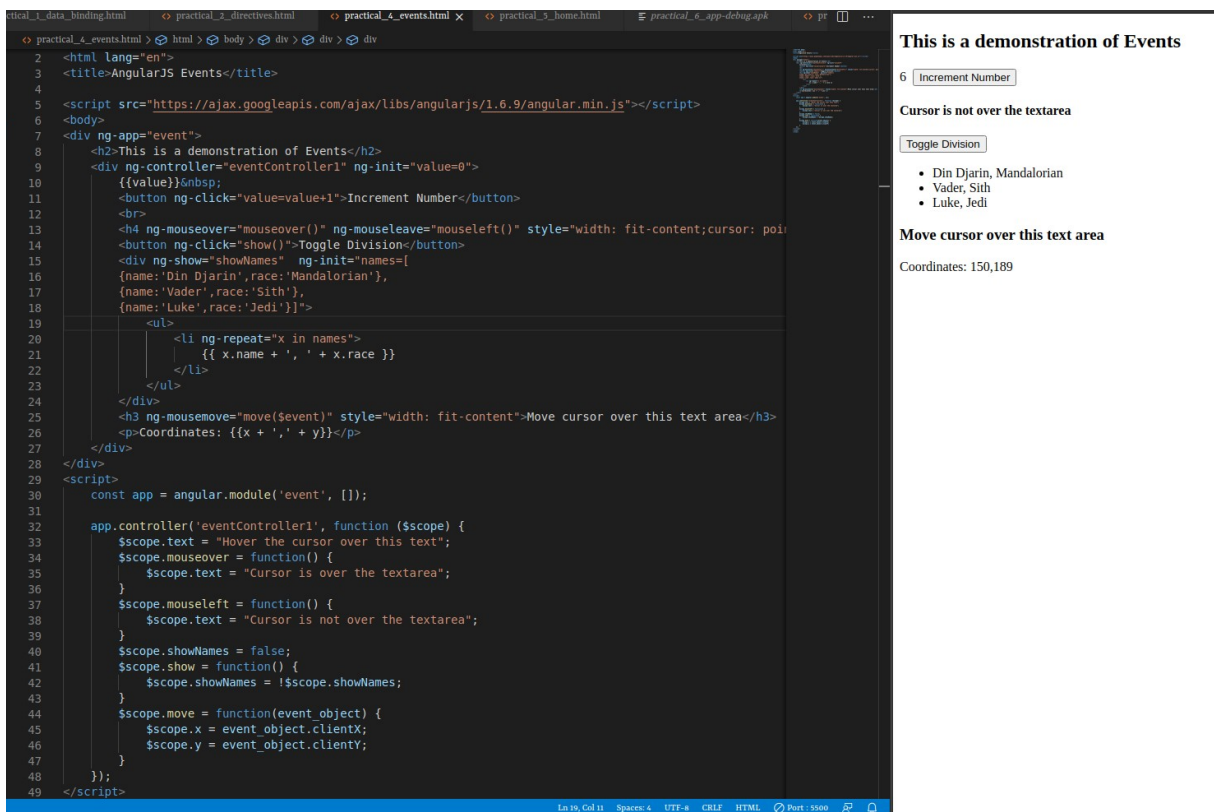
## What are Events in AngularJS?

AngularJS includes certain directives which can be used to provide custom behavior 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 & Output :



```
1 <html lang="en">
2 <title>AngularJS Events</title>
3
4 <script src="https://ajax.googleapis.com/ajax/libs/angularjs/1.6.9/angular.min.js"></script>
5 <body>
6 <div ng-app="event">
7   <h2>This is a demonstration of Events</h2>
8   <div ng-controller="eventController1" ng-init="value=0">
9     {{value}}<br>
10    <button ng-click="value=value+1">Increment Number</button>
11    <br>
12    <h4 ng-mouseover="mouseover()" ng-mouseleave="mouseleave()" style="width: fit-content; cursor: pointer;">
13      <button ng-click="show()">Toggle Division</button>
14      <div ng-show="showNames" ng-init="names=[
15        {name: 'Din Djarin', race: 'Mandalorian'},
16        {name: 'Vader', race: 'Sith'},
17        {name: 'Luke', race: 'Jedi'}]>
18        <ul>
19          <li ng-repeat="x in names">
20            {{ x.name + ', ' + x.race }}
21          </li>
22        </ul>
23      </div>
24      <h3 ng-mousemove="move($event)" style="width: fit-content">Move cursor over this text area</h3>
25      <p>Coordinates: {{x + ', ' + y}}</p>
26    </div>
27  </div>
28 </body>
29 <script>
30   const app = angular.module('event', []);
31
32   app.controller('eventController1', function ($scope) {
33     $scope.text = "Hover the cursor over this text";
34     $scope.mouseover = function() {
35       $scope.text = "Cursor is over the textarea";
36     }
37     $scope.mouseleft = function() {
38       $scope.text = "Cursor is not over the textarea";
39     }
40     $scope.showNames = false;
41     $scope.show = function() {
42       $scope.showNames = !$scope.showNames;
43     }
44     $scope.move = function(event_object) {
45       $scope.x = event_object.clientX;
46       $scope.y = event_object.clientY;
47     }
48   });
49 </script>
```

This is a demonstration of Events

6 | Increment Number

Cursor is not over the textarea

Toggle Division

- Din Djarin, Mandalorian
- Vader, Sith
- Luke, Jedi

Move cursor over this text area

Coordinates: 150,189

## 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:

1. Open command prompt as administrator
2. Run `npm install -g ionic`
3. Create a folder for your ionic project by running `md <folder_name>`
4. Navigate to the folder by running `cd <folder_name>`
5. To create an ionic app run `ionic start <app_name> blank`
6. Then it will ask to choose a framework so choose Angular JS
7. Navigate to the folder by running `cd <app_name>`
8. Then to start running the ionic web page on the server type `ionic serve`
9. To access the web page go on `http://localhost:8100`

## Code:

```
practical_1_data_binding.html    practical_2_directives.html    practical_4_events.html
practical_5_home.html > ion-content
1  <ion-header [translucent]="true">
2    <ion-toolbar>
3      <ion-title>
4        Ionic App
5      </ion-title>
6    </ion-toolbar>
7  </ion-header>
8
9  <ion-content [fullscreen]="true">
10    <ion-header collapse="condense">
11      <ion-toolbar>
12        <ion-title size="large">Ionic App</ion-title>
13      </ion-toolbar>
14    </ion-header>
15
16    <div id="container">
17      <strong>Hello World</strong>
18    </div>
19  </ion-content>
20
```



## Commands:

```
Activities Terminal Nov 10 11:33
pritam@pritamPC: ~/Webdevfiles/myapp

(base) pritam@pritamPC:~$ cd Webdevfiles
(base) pritam@pritamPC:~/Webdevfiles$ ls
android-sdk  gradle-6.5.1-bin  intro2angular  'Learning Website'  opt  VSCodeWorkspace
Flask-tutorials  gradle-6.5.1-bin.zip  ionic_proj1  myapp  pracs
(base) pritam@pritamPC:~/Webdevfiles$ cd myapp
(base) pritam@pritamPC:~/Webdevfiles/myapp$ ionic serve
> ng run app:serve --host=localhost --port=8100
[ng] chunk {} 0.js, 0.js.map () 31.2 kB [rendered]
[ng] chunk {m16} 16.js, 16.js.map () 32.9 kB [rendered]
[ng] chunk {common} common.js, common.js.map (common) 14.7 kB [rendered]
[ng] chunk {focus-visible-15ada7f7-js} focus-visible-15ada7f7-js.js, focus-visible-15ada7f7-js.js.map (focus-visible-15ada7f7-js) 2.11 kB [rendered]
[ng] chunk {home-home-module} home-home-module.js, home-home-module.js.map (home-home-module) 8.17 kB [rendered]
[ng] chunk {input-shims-4f0dbb39-js} input-shims-4f0dbb39-js.js, input-shims-4f0dbb39-js.js.map (input-shims-4f0dbb39-js) 16.3 kB [rendered]
[ng] chunk {keyboard-dd970efc-js} keyboard-dd970efc-js.js, keyboard-dd970efc-js.js.map (keyboard-dd970efc-js) 6.16 kB [rendered]
[ng] chunk {main} main.js, main.js.map (main) 19.7 kB [initial] [rendered]
[ng] chunk {polyfills} polyfills.js, polyfills.js.map (polyfills) 268 kB [initial] [rendered]
[ng] chunk {polyfills-core-js} polyfills-core-js.js, polyfills-core-js.js.map (polyfills-core-js) 92.4 kB [rendered]
[ng] chunk {polyfills-css-shim} polyfills-css-shim.js, polyfills-css-shim.js.map (polyfills-css-shim) 10.5 kB [rendered]
[ng] chunk {polyfills-dom} polyfills-dom.js, polyfills-dom.js.map (polyfills-dom) 38.5 kB [rendered]
[ng] chunk {runtime} runtime.js, runtime.js.map (runtime) 9.53 kB [entry] [rendered]
[ng] chunk {shadow-css-c63963b5-js} shadow-css-c63963b5-js.js, shadow-css-c63963b5-js.js.map (shadow-css-c63963b5-js) 15.9 kB [rendered]
[ng] chunk {status-tap-0b3e89c4-js} status-tap-0b3e89c4-js.js, status-tap-0b3e89c4-js.js.map (status-tap-0b3e89c4-js) 1.6 kB [rendered]
[ng] chunk {styles} styles.js, styles.js.map (styles) 93 kB [initial] [rendered]
[ng] chunk {swipe-back-0a6a44c8-js} swipe-back-0a6a44c8-js.js, swipe-back-0a6a44c8-js.js.map (swipe-back-0a6a44c8-js) 3.05 kB [rendered]
[ng] chunk {swiper-bundle-95afeea2-js} swiper-bundle-95afeea2-js.js, swiper-bundle-95afeea2-js.js.map (swiper-bundle-95afeea2-js) 200 kB [rendered]
[ng] chunk {tap-click-252af35a-js} tap-click-252af35a-js.js, tap-click-252af35a-js.js.map (tap-click-252af35a-js) 6.22 kB [rendered]
[ng] chunk {vendor} vendor.js, vendor.js.map (vendor) 4.79 MB [initial] [rendered]
[ng] Date: 2020-11-10T06:02:45.706Z - Hash: 34c89d6c36ede5d69893 - Time: 19192ms
[ng] WARNING in /home/pritam/Webdevfiles/myapp/src/test.ts is part of the TypeScript compilation but it's unused.
Add only entry points to the 'files' or 'include' properties in your tsconfig.
[ng] WARNING in /home/pritam/Webdevfiles/myapp/src/environments/environment.prod.ts is part of the TypeScript compilation but it's unused.
Add only entry points to the 'files' or 'include' properties in your tsconfig.
[INFO] ... and 41 additional chunks
[ng] : Compiled successfully.

[INFO] Development server running!
Local: http://localhost:8100
Use Ctrl+C to quit this process

[INFO] Browser window opened to http://localhost:8100!
```

## Output:

Blank

Ready to create an app?  
Start with Ionic UI Components



# 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.

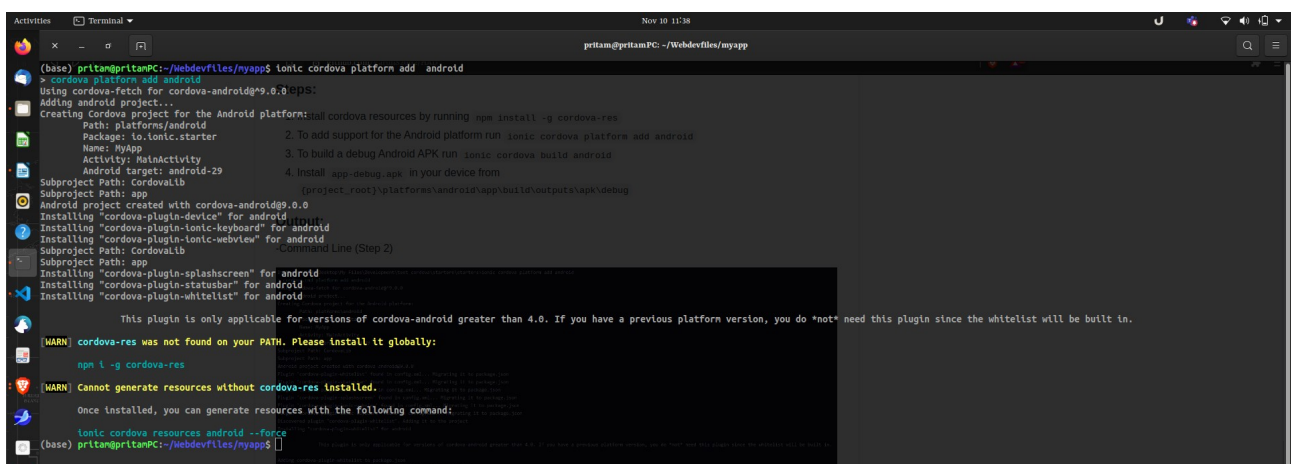
## Requirements:

1. Java 8 in path and JAVA\_HOME set
2. Android SDK with ANDROID\_SDK\_ROOT set
3. Gradle in path

## Steps:

1. Install cordova resources by running `npm install -g cordova-res`
2. To add support for the Android platform run `ionic cordova platform add android`
3. To build a debug Android APK run `ionic cordova build android`
4. Install `app-debug.apk` in your device from `{project_root}\platforms\android\app\build\outputs\apk\debug`

## Command:



```
(base) pritam@pritamPC:~/webdevfiles/myapp$ ionic cordova platform add android
> cordova platform add android
Using cordova-fetch for cordova-android@9.0.0@PS:
Adding android project...
Creating Cordova project for the Android platform:
  Path: platforms/android
  Package: io.ionic.starter
  Name: MyApp
  Activity: MainActivity
  Android target: android-29
  Subproject Path: CordovaLib
  Subproject Path: app
Android project created with cordova-android@9.0.0
Installing "cordova-plugin-device" for android
Installing "cordova-plugin-ionic-keyboard" for android
Installing "cordova-plugin-ionic-webview" for android
Installing "cordova-plugin-whitelist" for android
This plugin is only applicable for versions of cordova-android greater than 4.0. If you have a previous platform version, you do *not* need this plugin since the whitelist will be built in.
[WARN] cordova-res was not found on your PATH. Please install it globally:
npm i -g cordova-res
[WARN] Cannot generate resources without cordova-res installed.
Once installed, you can generate resources with the following command:
ionic cordova resources android --force
(base) pritam@pritamPC:~/webdevfiles/myapp$
```

```
Activities Nov 10 11:41
pritam@pritamPC: ~/Webdevfiles/myapp

chunk (runtime) runtime-es5.js, runtime-es5.js.map (runtime) 9.54 kB [entry] [rendered]
chunk (keyboard-dd970efc.js) keyboard-dd970efc.js-es2015.js, keyboard-dd970efc.js-es2015.js.map (keyboard-dd970efc.js) 6.16 kB [rendered]
chunk (keyboard-dd970efc.js) keyboard-dd970efc.js-es5.js, keyboard-dd970efc.js-es5.js.map (keyboard-dd970efc.js) 7.54 kB [rendered]
chunk (polyfills-css-shim) polyfills-css-shim-es2015.js, polyfills-css-shim-es2015.js.map (polyfills-css-shim) 10.5 kB [rendered]
chunk (28) 28-es2015.js, 28-es2015.js.map (28) 15.4 kB [rendered]
chunk (28) 28-es5.js, 28-es5.js.map (28) 10 kB [rendered]
chunk (39) 39-es2015.js, 39-es2015.js.map (39) 18.2 kB [rendered]
chunk (39) 39-es5.js, 39-es5.js.map (39) 23.2 kB [rendered]
chunk (12) 12-es2015.js, 12-es2015.js.map (12) 27.3 kB [rendered]
chunk (12) 12-es5.js, 12-es5.js.map (12) 32.4 kB [rendered]
chunk (swiper-bundle-95afea2.js) swiper-bundle-95afea2.js-es2015.js, swiper-bundle-95afea2.js-es2015.js.map (swiper-bundle-95afea2.js) 200 kB [rendered]
chunk (swiper-bundle-95afea2.js) swiper-bundle-95afea2.js-es5.js, swiper-bundle-95afea2.js-es5.js.map (swiper-bundle-95afea2.js) 250 kB [rendered]
chunk (status-tap-0b3e89c4.js) status-tap-0b3e89c4.js-es2015.js, status-tap-0b3e89c4.js-es2015.js.map (status-tap-0b3e89c4.js) 1.61 kB [rendered]
chunk (status-tap-0b3e89c4.js) status-tap-0b3e89c4.js-es5.js, status-tap-0b3e89c4.js-es5.js.map (status-tap-0b3e89c4.js) 1.88 kB [rendered]
chunk (main) main-es2015.js, main-es2015.js.map (main) 15.4 kB [initial] [rendered]
chunk (main) main-es5.js, main-es5.js.map (main) 21.5 kB [initial] [rendered]
chunk (styles) styles-es2015.js, styles-es2015.js.map (styles) 93 kB [initial] [rendered]
chunk (styles) styles-es5.js, styles-es5.js.map (styles) 95.7 kB [initial] [rendered]
chunk (cordova) cordova.js, cordova.js.map (cordova) 61.8 kB [entry] [rendered]
Date: 2020-11-10T06:10:37.540Z - Hash: 01a9be02c7d7c4716744 - TLine: 27553ms

WARNING in /home/pritam/Webdevfiles/myapp/src/test.ts is part of the TypeScript compilation but it's unused.
Add only entry points to the 'files' or 'include' properties in your tsconfig.

WARNING in /home/pritam/Webdevfiles/myapp/src/environments/environment.prod.ts is part of the TypeScript compilation but it's unused.
Add only entry points to the 'files' or 'include' properties in your tsconfig.

> cordova build android
Checking Java JDK and Android SDK versions
ANDROID_SDK_ROOT=/home/pritam/Webdevfiles/android-sdk (recommended setting)
ANDROID_HOME=/home/pritam/Webdevfiles/android-sdk (DEPRECATED)
Using Android SDK: /home/pritam/Webdevfiles/android-sdk
Starting a Gradle Daemon (subsequent builds will be faster)
:wrapper

BUILD SUCCESSFUL in 6s
1 actionable task: 1 executed
Subproject Path: CordovaLib
Subproject Path: app
Starting a Gradle Daemon, 1 incompatible and 1 stopped Daemons could not be reused, use --status for details

> Task :app:compileDebugJavaWithJavac
Note: Some input files use or override a deprecated API.
Note: Recompile with -Xlint:deprecation for details.

Deprecated Gradle features were used in this build, making it incompatible with Gradle 7.0.
Use --warning-mode all to show the individual deprecation warnings.
See https://docs.gradle.org/6.5/userguide/command_line_interface.html#sec:command_line_warnings

BUILD SUCCESSFUL in 36s
40 actionable tasks: 40 executed
Built the following apk(s):
/home/pritam/Webdevfiles/myapp/platforms/android/app/build/outputs/apk/debug/app-debug.apk
(base) pritam@pritamPC:~/Webdevfiles/myapp
```

```
Activities Nov 10 11:59
pritam@pritamPC: ~/Webdevfiles/myapp

chunk (common) common-es2015.js, common-es2015.js.map (common) 14.7 kB [rendered]
chunk (common) common-es5.js, common-es5.js.map (common) 20.4 kB [rendered]
chunk (shadow-css-c63963b5.js) shadow-css-c63963b5.js-es2015.js, shadow-css-c63963b5.js-es2015.js.map (shadow-css-c63963b5.js) 15.9 kB [rendered]
chunk (shadow-css-c63963b5.js) shadow-css-c63963b5.js-es5.js, shadow-css-c63963b5.js-es5.js.map (shadow-css-c63963b5.js) 19.6 kB [rendered]
chunk (18) 18-es2015.js, 18-es2015.js.map (18) 16.1 kB [rendered]
chunk (18) 18-es5.js, 18-es5.js.map (18) 20.5 kB [rendered]
chunk (23) 23-es2015.js, 23-es2015.js.map (23) 21.6 kB [rendered]
chunk (23) 23-es5.js, 23-es5.js.map (23) 27.7 kB [rendered]
chunk (33) 33-es2015.js, 33-es2015.js.map (33) 58.1 kB [rendered]
chunk (33) 33-es5.js, 33-es5.js.map (33) 79.6 kB [rendered]
chunk (swiper-bundle-95afea2.js) swiper-bundle-95afea2.js-es2015.js, swiper-bundle-95afea2.js-es2015.js.map (swiper-bundle-95afea2.js) 200 kB [rendered]
chunk (swiper-bundle-95afea2.js) swiper-bundle-95afea2.js-es5.js, swiper-bundle-95afea2.js-es5.js.map (swiper-bundle-95afea2.js) 250 kB [rendered]
chunk (swipe-back-0a6a44c8.js) swipe-back-0a6a44c8.js-es2015.js, swipe-back-0a6a44c8.js-es2015.js.map (swipe-back-0a6a44c8.js) 3.06 kB [rendered]
chunk (swipe-back-0a6a44c8.js) swipe-back-0a6a44c8.js-es5.js, swipe-back-0a6a44c8.js-es5.js.map (swipe-back-0a6a44c8.js) 3.45 kB [rendered]
chunk (vendor) vendor-es2015.js, vendor-es2015.js.map (vendor) 4.45 MB [initial] [rendered]
chunk (vendor) vendor-es5.js, vendor-es5.js.map (vendor) 5.55 MB [initial] [rendered]
chunk (41) 41-es2015.js, 41-es2015.js.map (41) 17.2 kB [rendered]
chunk (41) 41-es5.js, 41-es5.js.map (41) 22.2 kB [rendered]
chunk (22) 22-es2015.js, 22-es2015.js.map (22) 22.6 kB [rendered]
chunk (22) 22-es5.js, 22-es5.js.map (22) 28.2 kB [rendered]
chunk (15) 15-es2015.js, 15-es2015.js.map (15) 20.8 kB [rendered]
chunk (15) 15-es5.js, 15-es5.js.map (15) 26.4 kB [rendered]
chunk (styles) styles-es2015.js, styles-es2015.js.map (styles) 93 kB [initial] [rendered]
chunk (styles) styles-es5.js, styles-es5.js.map (styles) 95.7 kB [initial] [rendered]
chunk (status-tap-0b3e89c4.js) status-tap-0b3e89c4.js-es2015.js, status-tap-0b3e89c4.js-es2015.js.map (status-tap-0b3e89c4.js) 1.61 kB [rendered]
chunk (status-tap-0b3e89c4.js) status-tap-0b3e89c4.js-es5.js, status-tap-0b3e89c4.js-es5.js.map (status-tap-0b3e89c4.js) 1.88 kB [rendered]
chunk (36) 36-es2015.js, 36-es2015.js.map (36) 24.1 kB [rendered]
chunk (36) 36-es5.js, 36-es5.js.map (36) 27.7 kB [rendered]
chunk (cordova) cordova.js, cordova.js.map (cordova) 61.8 kB [entry] [rendered]
Date: 2020-11-10T06:14:59.004Z - Hash: 01a9be02c7d7c4716744 - TLine: 31428ms

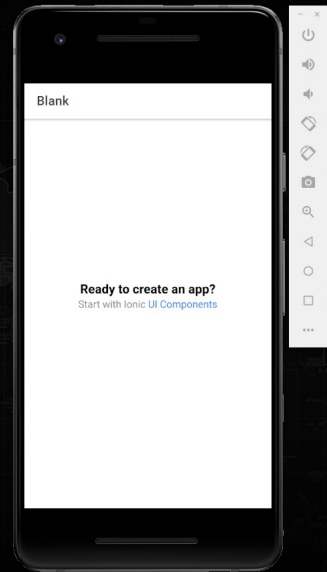
WARNING in /home/pritam/Webdevfiles/myapp/src/test.ts is part of the TypeScript compilation but it's unused.
Add only entry points to the 'files' or 'include' properties in your tsconfig.

WARNING in /home/pritam/Webdevfiles/myapp/src/environments/environment.prod.ts is part of the TypeScript compilation but it's unused.
Add only entry points to the 'files' or 'include' properties in your tsconfig.

> cordova build android
Checking Java JDK and Android SDK versions
ANDROID_SDK_ROOT=/home/pritam/Webdevfiles/android-sdk (recommended setting)
ANDROID_HOME=/home/pritam/Webdevfiles/android-sdk (DEPRECATED)
Using Android SDK: /home/pritam/Webdevfiles/android-sdk
Subproject Path: CordovaLib
Subproject Path: app

Deprecated Gradle features were used in this build, making it incompatible with Gradle 7.0.
Use --warning-mode all to show the individual deprecation warnings.
See https://docs.gradle.org/6.5/userguide/command_line_interface.html#sec:command_line_warnings

BUILD SUCCESSFUL in 28s
40 actionable tasks: 40 up-to-date
Built the following apk(s):
/home/pritam/Webdevfiles/myapp/platforms/android/app/build/outputs/apk/debug/app-debug.apk
> native-run android --app platforms/android/app/build/outputs/apk/debug/app-debug.apk
[native-run] No hardware devices found, attempting emulator...
[native-run] Selected emulator emulator-5554
[native-run] Installing platform:android/app/build/outputs/apk/debug/app-debug.apk...
[native-run] Starting application activity to: ionic.starter.io.ionic.starter.MainActivity...
[native-run] Run Successful
(base) pritam@pritamPC:~/Webdevfiles/myapp
```



# 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.

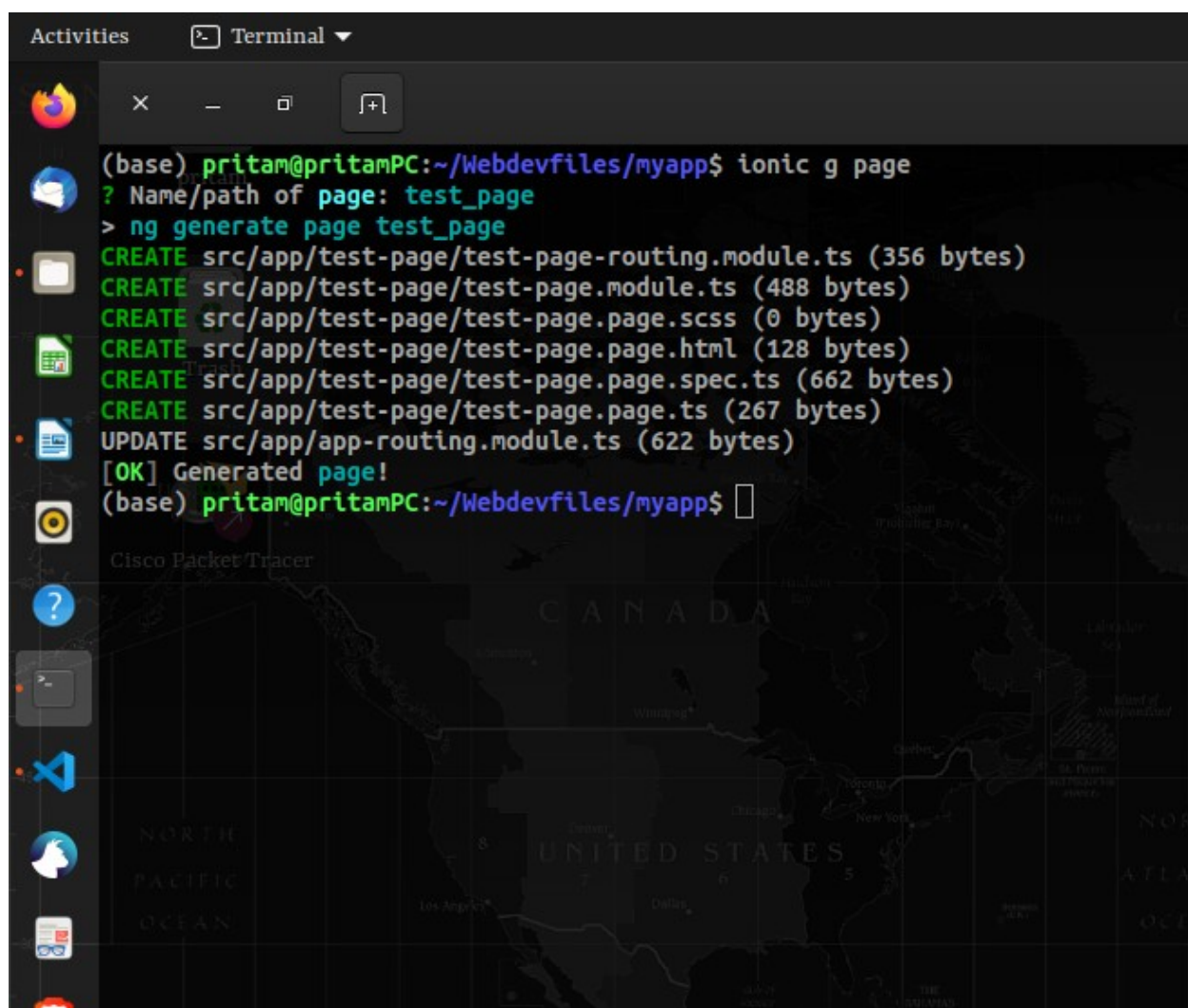
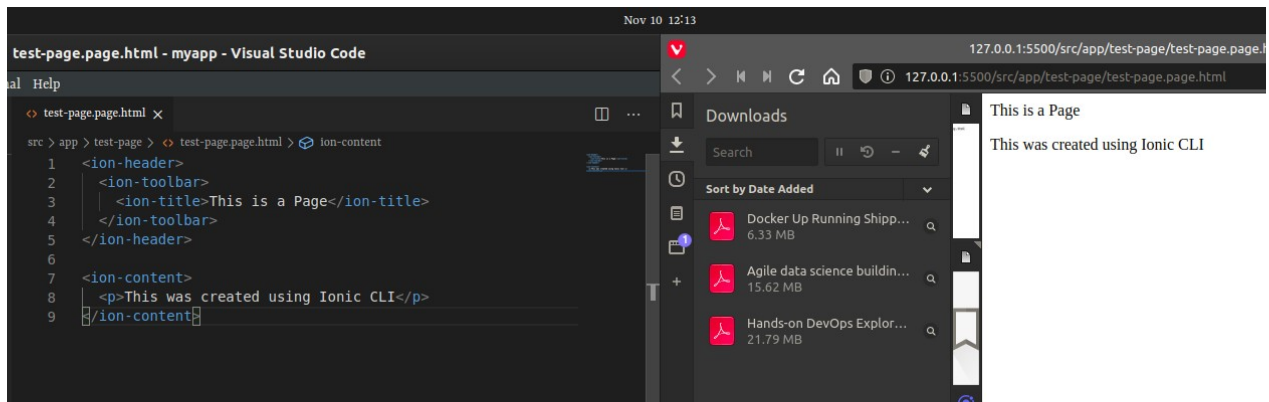
Unlike traditional web apps, URLs don't dictate navigation in Ionic apps. Instead, URLs help us link to specific pieces of content as a breadcrumb. The current URL gets updated as we navigate, but we use the NavController push and pop, or NavPush and NavPop to move around. This makes it much easier to 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 <folder_name>`
3. Navigate to the folder by running `cd <folder_name>`
4. To create an ionic app run `ionic start <app_name> blank`
5. Then it will ask to choose a framework so choose `Angular JS`
6. Navigate to the folder by running `cd <app_name>`
7. To generate and add a page run `ionic g page <page_name>`
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}`

## Code & Output :



# 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 `md <folder_name>`
- 3.Navigate to the folder by running `cd <folder_name>`
- 4.To create an ionic app run `ionic start <app_name> tabs`
- 5.Then it will ask to choose a framework so choose Angular JS
- 6.Navigate to the folder by running `cd <app_name>`
- 7.Then to start running the ionic web page on the server type `ionic serve`
- 8.To access the web page go on `http://localhost:8100`

## Code:



## Help

<> test-page.page.html <> tab1.page.html X

starters > src > app > tab1 > <> tab1.page.html > ...

```

1  <ion-header [translucent]="true">
2    <ion-toolbar>
3      <ion-title>
4        Tab 1
5      </ion-title>
6    </ion-toolbar>
7  </ion-header>
8
9  <ion-content [fullscreen]="true">
10    <ion-header collapse="condense">
11      <ion-toolbar>
12        <ion-title size="large">Tab 1</ion-title>
13      </ion-toolbar>
14    </ion-header>
15
16    <app-explore-container name="Tab 1 page"></app-explore-container>
17  </ion-content>
18

```

## Commands:

```

Activities  Terminal  Nov 10 12:37
pritam@pritamPC: ~/Webdevfiles/myapp/starters$ ionic serve
> ng run app:serve --host=localhost --port=8101
[ng] Compiling @angular/core: es2015 as esm2015
[ng] Compiling @ionic-native/core: module as esm5
[ng] Compiling @angular/compiler/testing: es2015 as esm2015
[ng] Compiling @angular/core/testing: es2015 as esm2015
[ng] Compiling @ionic-native/splash-screen: module as esm5
[ng] Compiling @angular/common: es2015 as esm2015
[ng] Compiling @ionic-native/status-bar: module as esm5
[ng] Compiling @angular/platform-browser: es2015 as esm2015
[ng] Compiling @angular/common/http: es2015 as esm2015
[ng] Compiling @angular/common/testing: es2015 as esm2015
[ng] Compiling @angular/forms: es2015 as esm2015
[ng] Compiling @angular/platform-browser-dynamic: es2015 as esm2015
[ng] Compiling @angular/platform-browser/testing: es2015 as esm2015
[ng] Compiling @angular/router/testing: es2015 as esm2015
[ng] Compiling @ionic/angular: es2015 as esm2015
[ng] Compiling @angular/common/http/testing: es2015 as esm2015
[ng] Compiling @angular/platform-browser-dynamic/testing: es2015 as esm2015
[ng] chunk (J) 0.js: 0.js.map (J) 30.4 kB [rendered]
[ng] chunk (common) common.js, common.js.map (common) 20.4 kB [rendered]
[ng] chunk (focus-visible-f4ad4fia-js) focus-visible-f4ad4fia-js.js, focus-visible-f4ad4fia-js.js.map (focus-visible-f4ad4fia-js) 1.97 kB [rendered]
[ng] chunk (input-shims-7574994a-js) input-shims-7574994a-js.js, input-shims-7574994a-js.js.map (input-shims-7574994a-js) 15.3 kB [rendered]
[ng] chunk (keyboard-5742b5da-js) keyboard-5742b5da-js.js, keyboard-5742b5da-js.js.map (keyboard-5742b5da-js) 6.03 kB [rendered]
[ng] chunk (main) main.js, main.js.map (main) 19.7 kB [initial] [rendered]
[ng] chunk (polyfills) polyfills.js, polyfills.js.map (polyfills) 268 kB [initial] [rendered]
[ng] chunk (polyfills-core-js) polyfills-core-js.js, polyfills-core-js.js.map (polyfills-core-js) 92.4 kB [rendered]
[ng] chunk (polyfills-css-shim) polyfills-css-shim.js, polyfills-css-shim.js.map (polyfills-css-shim) 10.7 kB [rendered]
[ng] chunk (polyfills-dom) polyfills-dom.js, polyfills-dom.js.map (polyfills-dom) 19.5 kB [rendered]
[ng] chunk (runtime) runtime.js, runtime.js.map (runtime) 9.64 kB [entry] [rendered]
[ng] chunk (shadow-css-58508bb5-js) shadow-css-58508bb5-js.js, shadow-css-58508bb5-js.js.map (shadow-css-58508bb5-js) 15.9 kB [rendered]
[ng] chunk (status-tap-b46a1b02-js) status-tap-b46a1b02-js.js, status-tap-b46a1b02-js.js.map (status-tap-b46a1b02-js) 1.51 kB [rendered]
[ng] chunk (styles) styles.js, styles.js.map (styles) 93 kB [initial] [rendered]
[ng] chunk (swipe-back-53c5a7dd-js) swipe-back-53c5a7dd-js.js, swipe-back-53c5a7dd-js.js.map (swipe-back-53c5a7dd-js) 2.9 kB [rendered]
[ng] chunk (swiper-bundle-95afea2-js) swiper-bundle-95afea2-js.js, swiper-bundle-95afea2-js.js.map (swiper-bundle-95afea2-js) 200 kB [rendered]
[ng] chunk (tab1-tab1-module) tab1-tab1-module.js, tab1-tab1-module.js.map (tab1-tab1-module) 7.28 kB [rendered]
[ng] chunk (tab2-tab2-module) tab2-tab2-module.js, tab2-tab2-module.js.map (tab2-tab2-module) 7.28 kB [rendered]
[ng] chunk (tab3-tab3-module) tab3-tab3-module.js, tab3-tab3-module.js.map (tab3-tab3-module) 7.62 kB [rendered]
[ng] chunk (tabs-tabs-module) tabs-tabs-module.js, tabs-tabs-module.js.map (tabs-tabs-module) 8.28 kB [rendered]
[ng] chunk (tap-click-9f8fd111-js) tap-click-9f8fd111-js.js, tap-click-9f8fd111-js.js.map (tap-click-9f8fd111-js) 5.64 kB [rendered]
[ng] chunk (vendor) vendor.js, vendor.js.map (vendor) 4.77 MB [initial] [rendered]
[ng] Date: 2020-11-10T07:06:31.930Z - Hash: 6632038f882dc3c1f - Time: 1256ms
[ng] WARNING in /home/pritam/Webdevfiles/myapp/starters/src/test.ts is part of the TypeScript compilation but it's unused.
[ng] Add only entry points to the 'files' or 'include' properties in your tsconfig.
[ng] WARNING in /home/pritam/Webdevfiles/myapp/starters/src/environments/environment.prod.ts is part of the TypeScript compilation but it's unused.
[ng] Add only entry points to the 'files' or 'include' properties in your tsconfig.
[ng] ... and 42 additional chunks
[ng] : Compiled successfully.

[INFO] Development server running!

Local: http://localhost:8101

Use Ctrl+C to quit this process

[INFO] Browser window opened to http://localhost:8101

[ng] Date: 2020-11-10T07:06:33.279Z - Hash: 3c2f347e06357263710

```



Output:

