

Angular - Routes and Forms

-0.6 Credits

-150 Miles

Hands-On Solutions:

COMPLETED - 4



COMPLETED

Try It Out - Dependency Injection

RETAKE HANDS-ON



COMPLETED

Try It Out - HTTP

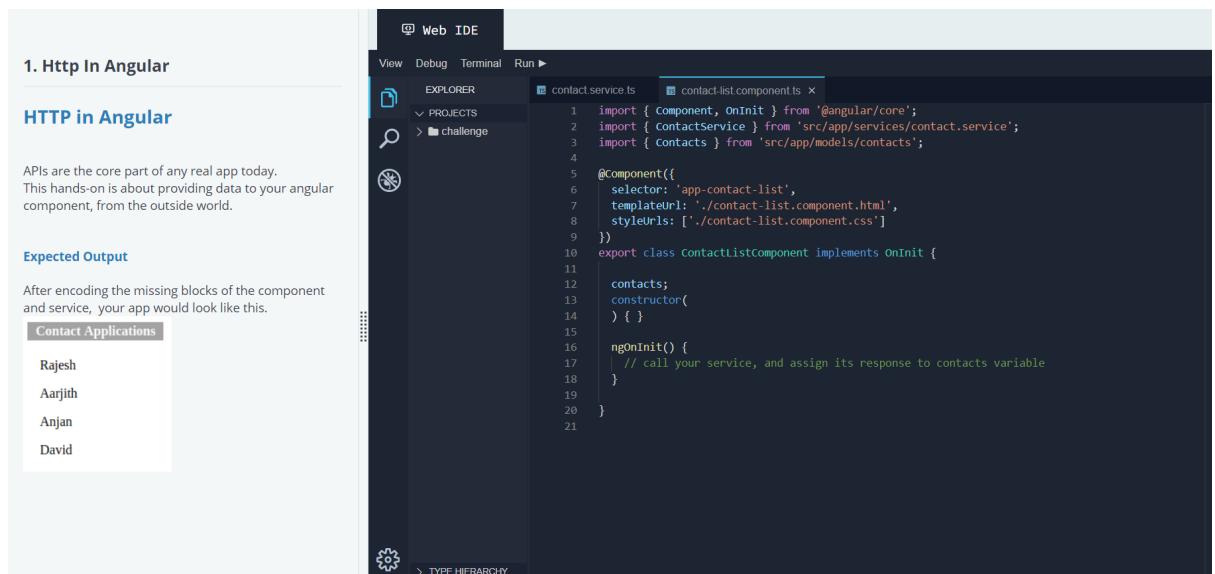
RETAKE HANDS-ON



COMPLETED

Try it Out - Routing

❖ **Http in Angular**



1. contact.service.ts

```
import { Injectable } from '@angular/core';  
  
import { HttpClient } from '@angular/common/http';  
  
import { Observable, of } from 'rxjs';  
  
import { Contacts } from '../models/contacts';
```

```
// @Injectable({  
  
//   providedIn: 'root'  
  
// })
```

```
export class ContactService {  
  
  url = 'http://www.mocky.io/v2/5c5d880f3200000e11220880';  
  
  constructor(  
  
    private http: HttpClient  
  
  ) {}
```

```

getContacts(): Observable<Contacts> {

    // make http request to the given url and fetch the contacts

    return this.http.get<Contacts>(this.url);

}
}

```

2. contact-list.component.ts

```

import { Component, OnInit } from '@angular/core';
import { ContactService } from 'src/app/services/contact.service';
import { Contacts } from 'src/app/models/contacts';

@Component({
  selector: 'app-contact-list',
  templateUrl: './contact-list.component.html',
  styleUrls: ['./contact-list.component.css']
})
export class ContactListComponent implements OnInit {

  contacts: any;

  constructor( private contactService : ContactService
  ) {}

  ngOnInit() {

    // call your service, and assign its response to contacts variable

```

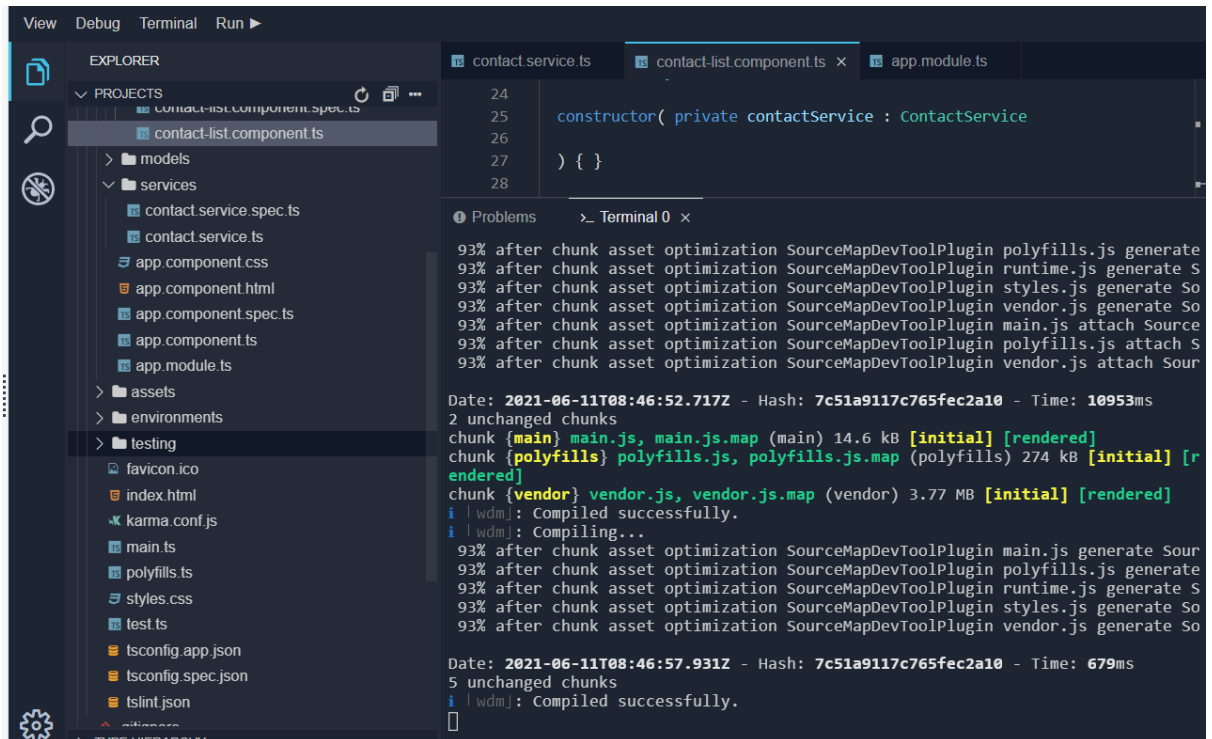
```
    this.contactService.getContacts().subscribe( data => {  
        this.contacts = data ? data.contactsList : [];  
    })  
}  
}
```

3. app.module.ts

```
import { BrowserModule } from '@angular/platform-browser';  
import { NgModule } from '@angular/core';  
import { HttpClientModule } from '@angular/common/http';  
import { ContactService } from 'src/app/services/contact.service';  
import { AppComponent } from './app.component';  
import { ContactListComponent } from './components/contact-list/contact-list.component';  
  
@NgModule({  
  declarations: [  
    AppComponent,  
    ContactListComponent  
  ],  
  imports: [  
    BrowserModule,  
    HttpClientModule  
  ],  
  providers: [ContactService],  
  bootstrap: [AppComponent]
```

```
}}
```

```
export class AppModule { }
```



1. Http In Angular

HTTP in Angular

APIs are the core part of any real app today. This hands-on is about providing data to your angular component, from the outside world.

Expected Output

After encoding the missing blocks of the component and service, your app would look like this.

Contact Applications

- Rajesh
- Aarjith
- Anjan
- David

```
24
25 constructor( private contactService : ContactService
26
27 ) { }
28
```

```
Date: 2021-06-11T08:46:57.931Z - Hash: 7c51a9117c765fec2a10 - Time: 679ms
5 unchanged chunks
i | wdm|: Compiled successfully.
```

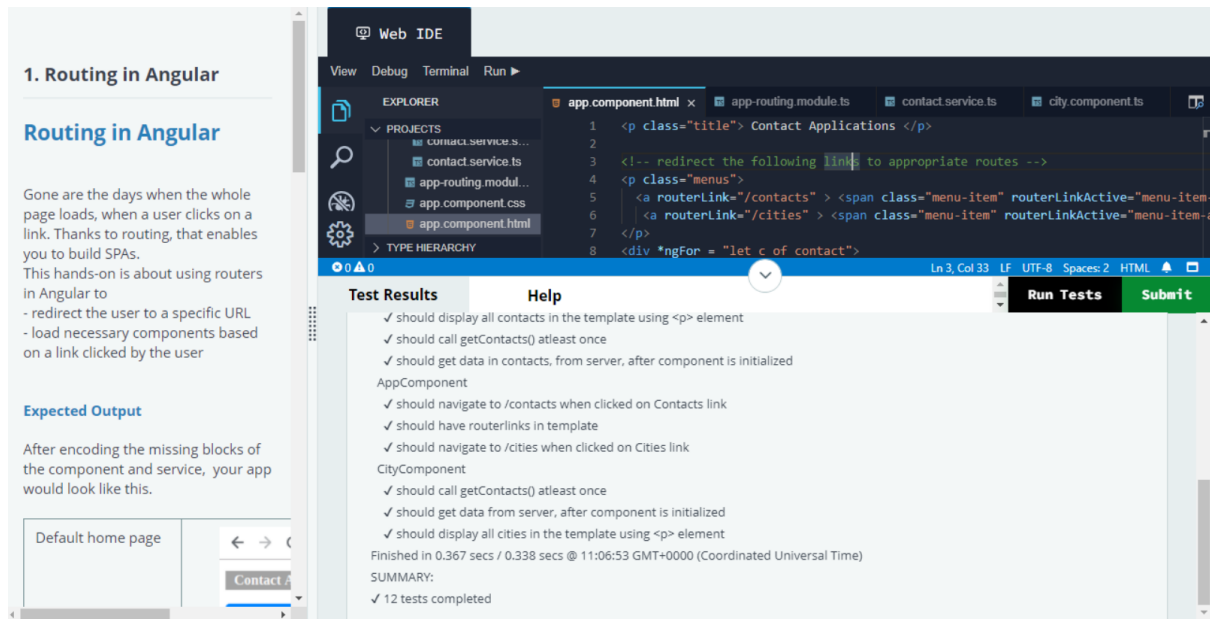
Test Results

Help

Run Tests Submit

```
[32m11 06 2021 08:47:46.107:INFO [launcher]: [39mLaunching browsers ChromeHeadless with concurrency unlimited
[32m11 06 2021 08:47:46.205:INFO [launcher]: [39mStarting browser ChromeHeadless
[32m11 06 2021 08:47:50.636:INFO [HeadlessChrome 78.0.3904 (Linux 0.0.0)]: [39mConnected on socket elvEYNZhQOtEXullAAAA with id
96297891
ContactService
#getContacts
✓ should give 404 in user friendly way
✓ can return empty contacts
✓ should return expected contacts
✓ should be created
ContactListComponent
✓ should call getContacts() method atleast once
✓ should get data from server
Finished in 0.148 secs / 0.131 secs @ 08:47:52 GMT+0000 (Coordinated Universal Time)
SUMMARY:
✓ 6 tests completed
```

❖ Routing Angular



1. app.component.html

```
<p class="title"> Contact Applications </p>
```

```
<!-- redirect the following links to appropriate routes -->
```

```
<p class="menus">
```

```
  <a routerLink="/contacts" > <span class="menu-item" routerLinkActive="menu-item-active" id="contact-link"> Contacts </span> </a>
```

```
  <a routerLink="/cities" > <span class="menu-item" routerLinkActive="menu-item-active" id="cities-link"> Cities </span> </a>
```

```
</p>
```

```
<div *ngFor = "let c of contacts">
```

```
  <h3> {{ c.city }} </h3>
```

```
  <p> {{c.name}} </p>
```

```
</div>
```

```
<router-outlet></router-outlet>
```

2. app-routing.module.ts

```
import { NgModule } from '@angular/core';
import { Routes, RouterModule } from '@angular/router';
import { ContactsComponent } from './components/contacts/contacts.component';
import { CityComponent } from './components/city/city.component';

export const routes: Routes = [
  {path:'contacts',component:ContactsComponent},
  {path:'cities',component:CityComponent}
];

@NgModule({
  imports: [RouterModule.forRoot([])],
  exports: [RouterModule]
})
export class AppRoutingModule { }
```

3. contact.service.ts

```
import { Injectable } from '@angular/core';
import { HttpClient } from '@angular/common/http';
import { Contacts } from '../models/contacts';
```

```

import { Observable, of } from 'rxjs';

// @Injectable({
//   providedIn: 'root'
// })
export class ContactService {

  url = `http://www.mocky.io/v2/5c5d880f3200000e11220880`;

  constructor( private http:HttpClient
  ) { }

  getContacts(): Observable<Contacts> {
    return this.http.get<Contacts>(this.url);

    // get contacts from the above url
    // const contacts = this.http.get<Contacts>(this.url);
    //return of(this.contacts);
  }

}

```

4.city.component.ts

```

import { Component, OnInit } from '@angular/core';
import { ContactService } from 'src/app/services/contact.service';
import { Contact, Contacts } from 'src/app/models/contacts';

```



```

@Component({
  selector: 'app-city',
  templateUrl: './city.component.html',
  styleUrls: ['./city.component.css']
})
export class CityComponent implements OnInit {

  contacts: Contact[] = [];

  constructor( private contactService : ContactService
  ) { }

  ngOnInit() {
    // call your service and assign response to contacts
    this.contactService.getContacts().subscribe( data => {
      this.contacts = data ? data.contactsList : [];
    })
  }

}

```

5. contacts.ts (Interface already in that)

```

export interface Contacts {
  contactsList: Contact[];
}

```

```
}
```

```
export interface Contact {
```

```
  id: number;
```

```
  name: string;
```

```
  city: string;
```

```
}
```

5. contacts.component.ts

```
import { Component, OnInit } from '@angular/core';
```

```
import { ContactService } from '../services/contact.service';
```

```
import { Contacts, Contact } from 'src/app/models/contacts';
```

```
@Component({
```

```
  selector: 'app-contacts',
```

```
  templateUrl: './contacts.component.html',
```

```
  styleUrls: ['./contacts.component.css']
```

```
})
```

```
export class ContactsComponent implements OnInit {
```

```
  contacts: Contact[];
```

```
  constructor( private contactService : ContactService
```

```
  ) { }
```

```
ngOnInit() {
```

```
    // call your service and assign response to contacts
```

```
    this.contactService.getContacts().subscribe( data => {
```

```
        this.contacts = data ? data.contactsList : [];
```

```
    })
```

```
}
```

```
}
```

```
Problems Terminal 0 x

51% building 347/348 modules 1 active ../core-js/internals/to-absolute-index.j
93% after chunk asset optimization SourceMapDevToolPlugin main.js generate Sour
93% after chunk asset optimization SourceMapDevToolPlugin polyfills.js generate
93% after chunk asset optimization SourceMapDevToolPlugin runtime.js generate S
93% after chunk asset optimization SourceMapDevToolPlugin styles.js generate So
93% after chunk asset optimization SourceMapDevToolPlugin vendor.js generate So
93% after chunk asset optimization SourceMapDevToolPlugin main.js attach Source
93% after chunk asset optimization SourceMapDevToolPlugin polyfills.js attach S
93% after chunk asset optimization SourceMapDevToolPlugin runtime.js attach Sou
93% after chunk asset optimization SourceMapDevToolPlugin styles.js attach Sour
93% after chunk asset optimization SourceMapDevToolPlugin vendor.js attach Sour
95% emitting CopyPlugin i | wdm | : wait until bundle finished: /

Date: 2021-06-11T09:01:32.560Z
Hash: 367be62eb8989ffce9ac
Time: 9658ms
chunk {main} main.js, main.js.map (main) 21.6 kB [initial] [rendered]
chunk {polyfills} polyfills.js, polyfills.js.map (polyfills) 274 kB [initial] [r
rendered]
chunk {runtime} runtime.js, runtime.js.map (runtime) 6.08 kB [entry] [rendered]
chunk {styles} styles.js, styles.js.map (styles) 16.3 kB [initial] [rendered]
chunk {vendor} vendor.js, vendor.js.map (vendor) 4.04 MB [initial] [rendered]
** Angular Live Development Server is listening on 0.0.0.0:8000, open your brows
er on http://localhost:8000/ **
i | wdm | : Compiled successfully.
[]
```

✓ should get data from server, after component is initialized

ContactsComponent

✓ should display all contacts in the template using <p> element

✓ should call getContacts() atleast once

✓ should get data in contacts, from server, after component is initialized

ContactService

✓ should be OK returning empty contacts

✓ should return expected contacts

✓ should turn 404 into user friendly error

AppComponent

✓ should have routerlinks in template

✓ should navigate to /cities when clicked on Cities link

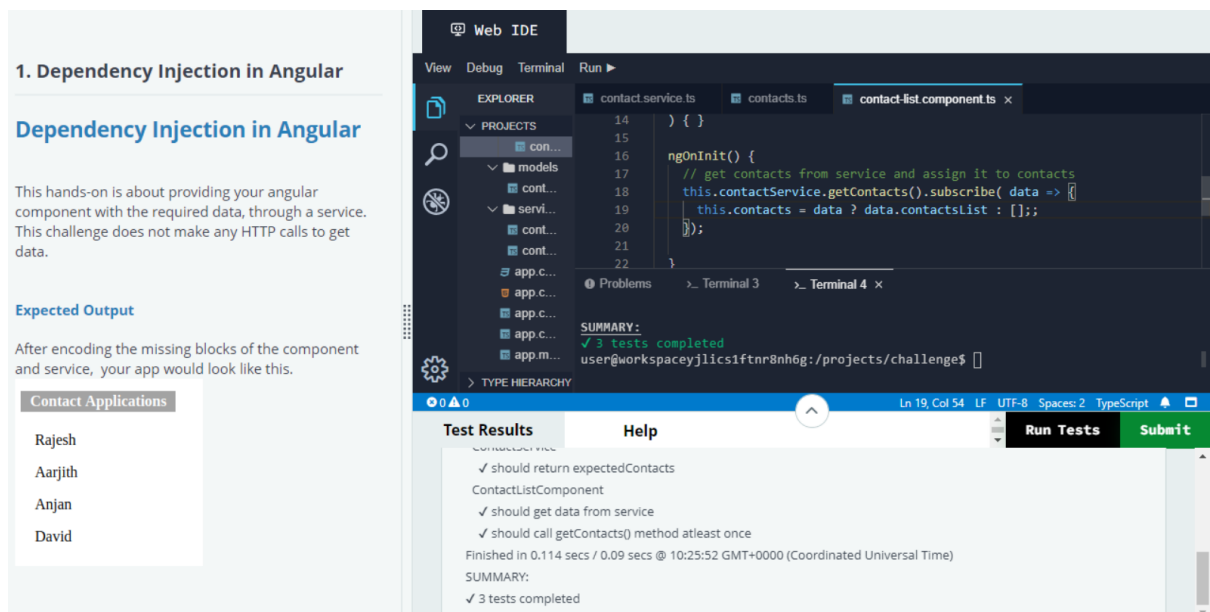
✓ should navigate to /contacts when clicked on Contacts link

Finished in 0.33 secs / 0.303 secs @ 09:13:18 GMT+0000 (Coordinated Universal Time)

SUMMARY:

✓ 12 tests completed

❖ Dependency Injection in Angular



1. contact.service.ts

```
import { Injectable } from '@angular/core';
```

```
import { of, Observable } from 'rxjs';
```

```
import { Contacts } from '../models/contacts';
```

```
export class ContactService {
```

```
  contacts = {
```

```
    'contactsList': [
```

```
      { 'id': 1, 'name': 'Rajesh', 'city': 'bangalore'},
```

```
      { 'id': 2, 'name': 'Aarjith', 'city': 'london'},
```

```
      { 'id': 3, 'name': 'Anjan', 'city': 'california'},
```

```
      { 'id': 4, 'name': 'David', 'city': 'delhi'}
```

```
    ]
```

```
  };
```

```
constructor(  
  ) { }
```

```
getContacts(): Observable<Contacts> {  
  
  // send contacts to subscriber  
  
  return of(this.contacts);  
  
  }  
  
}
```

2.contact-list.component.ts

```
import { Component, OnInit } from '@angular/core';  
import { ContactService } from 'src/app/services/contact.service';
```

```
@Component({  
  selector: 'app-contact-list',  
  templateUrl: './contact-list.component.html',  
  styleUrls: ['./contact-list.component.css']  
})  
  
export class ContactListComponent implements OnInit {  
  
  contacts : any ;  
  
  constructor(  
  
    private contactService: ContactService  
  
  ) { }
```

```

ngOnInit() {

    // get contacts from service and assign it to contacts

    this.contactService.getContacts().subscribe( data => {

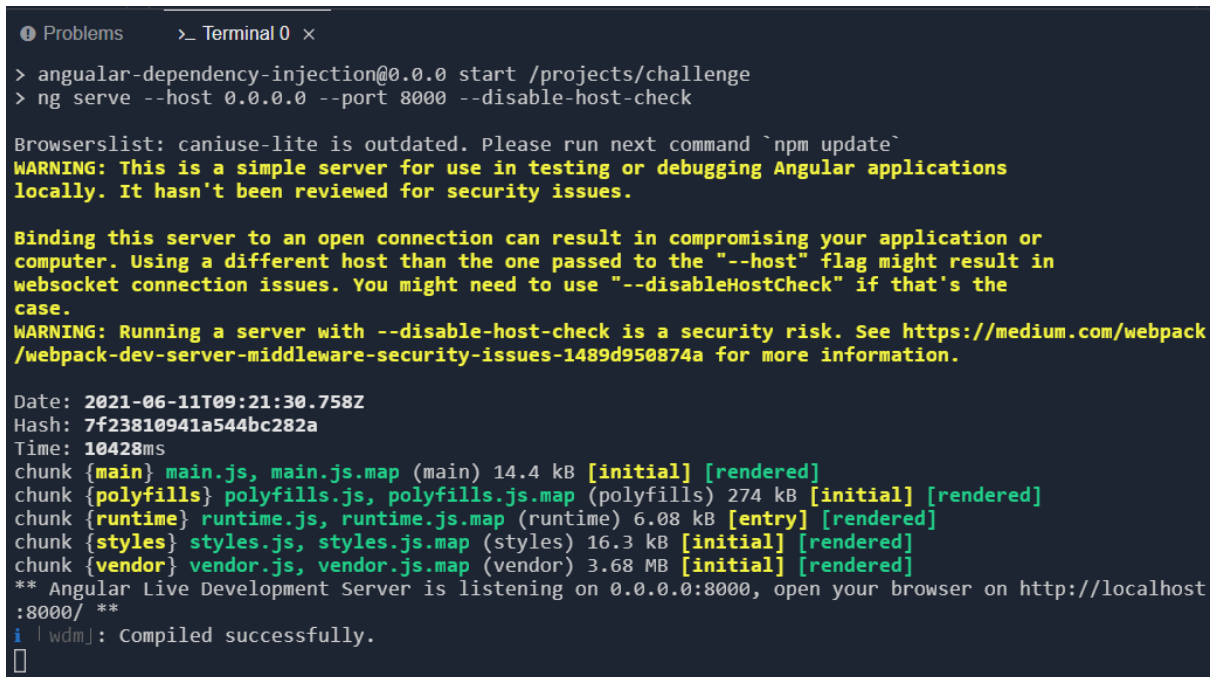
        this.contacts = data ? data.contactsList : [];

    });

}

}

```



```

Problems  Terminal 0 x
> angular-dependency-injection@0.0.0 start /projects/challenge
> ng serve --host 0.0.0.0 --port 8000 --disable-host-check

Browserslist: caniuse-lite is outdated. Please run next command `npm update`
WARNING: This is a simple server for use in testing or debugging Angular applications
locally. It hasn't been reviewed for security issues.

Binding this server to an open connection can result in compromising your application or
computer. Using a different host than the one passed to the "--host" flag might result in
websocket connection issues. You might need to use "--disableHostCheck" if that's the
case.
WARNING: Running a server with --disable-host-check is a security risk. See https://medium.com/webpack
/webpack-dev-server-middleware-security-issues-1489d950874a for more information.

Date: 2021-06-11T09:21:30.758Z
Hash: 7f23810941a544bc282a
Time: 10428ms
chunk {main} main.js, main.js.map (main) 14.4 kB [initial] [rendered]
chunk {polyfills} polyfills.js, polyfills.js.map (polyfills) 274 kB [initial] [rendered]
chunk {runtime} runtime.js, runtime.js.map (runtime) 6.08 kB [entry] [rendered]
chunk {styles} styles.js, styles.js.map (styles) 16.3 kB [initial] [rendered]
chunk {vendor} vendor.js, vendor.js.map (vendor) 3.68 MB [initial] [rendered]
** Angular Live Development Server is listening on 0.0.0.0:8000, open your browser on http://localhost
:8000/ **
i | wdm | Compiled successfully.

```

```
> ng test --watch=false
Browserslist: caniuse-lite is outdated. Please run next command `npm update`
START:
[32m11 06 2021 09:21:55.190:INFO [karma-server]: [39mKarma v4.0.1 server started at http://0.0.0.0:9876/
[32m11 06 2021 09:21:55.193:INFO [launcher]: [39mLaunching browsers ChromeHeadless with concurrency unlimited
[32m11 06 2021 09:21:55.200:INFO [launcher]: [39mStarting browser ChromeHeadless
[32m11 06 2021 09:21:59.233:INFO [HeadlessChrome 78.0.3904 (Linux 0.0.0)]: [39mConnected on socket xOktPuvMraosPNXAAAA with id 77065625

ContactService
  ✓ should return expectedContacts
ContactListComponent
  ✓ should call getContacts() method atleast once
  ✓ should get data from service
Finished in 0.12 secs / 0.101 secs @ 09:22:01 GMT+0000 (Coordinated Universal Time)
SUMMARY:
✓ 3 tests completed
```

❖ Angular Reactive Forms

1. Angular reactive forms question

Reactive Forms in Angular

Forms are the most popular way to accept values from a user. This hands-on is about creating a form using **Reactive Forms**. You also need to add necessary validations to each of the form fields. The details of the validations to be added are given in `app.component.ts` file.

Expected Output

Empty form

Na
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e

Web IDE

View Debug Terminal Run

EXPLORER

PROJECTS

app

app.c...

app.c...

app.c...

app.c...

app.m...

assets

enviro...

TYPE HIERARCHY

app.component.html

app.component.ts

20

21

22

23

24

25

26

27

28

29

30

contactForm = new FormGroup({

name: new FormControl(null,[

Validators.required]),

phone: new FormControl(null,[

Validators.required,

Validators.pattern("[0-9]*\$"),

Validators.minLength(10),

Validators.maxLength(10)]],

address: new FormGroup({

Ln 24, Col 32 LF UTF-8 Spaces: 2 TypeScript

Test Results

Help

Run Tests

Submit

#phone

✓ should be invalid if empty

✓ should have "required" validation

✓ should accept only numbers(pattern validation)

✓ should have 10 digits(minlength & maxlength validation)

#address - zip

✓ should be a number

✓ should have 6 digits exactly

Finished in 1.057 secs / 1.047 secs @ 13:04:07 GMT+0000 (Coordinated Universal Time)

SUMMARY:

✓ 11 tests completed

1. app.component.ts

```
import { Component } from '@angular/core';
```

```
import { FormGroup, FormControl, Validators } from '@angular/forms';
```



```
@Component({  
  selector: 'app-root',  
  templateUrl: './app.component.html',  
  styleUrls: ['./app.component.css']  
})
```

```
export class AppComponent {
```

```
  /** create a form (contactForm) with following controls/groups and validations
```

```
  *   - name: control,   valiations: required  
  *   - phone: control,  validations: required, number of 10 digits  
  *   - address: group  
  *   - street: control  
  *   - city: control  
  *   - zip: number of 6 digits  
  */
```

```
  contactForm = new FormGroup({
```

```
    name: new FormControl(null,[  
      Validators.required]),
```

```
    phone: new FormControl(null,[  
      Validators.required,
```

```
      Validators.pattern("[0-9]*$"),
```

```
      Validators.minLength(10),
```

```
      Validators.maxLength(10)]),
```

```
    address: new FormGroup({
```

```

street: new FormControl(null),

city: new FormControl(null),

zip: new FormControl(null,[
Validators.minLength(6),
Validators.maxLength(6),
Validators.pattern('^[0-6]*$')])
})

});

onSubmit() {

  console.log('form value =>', this.contactForm.value);

}

get name() { return this.contactForm.get('name'); }

get phone() { return this.contactForm.get('phone'); }

get zip() { return this.contactForm.controls['address'].get('zip'); }

}

```

```

✓ form should be valid on entering required fields
#name
  ✓ should be invalid if empty
  ✓ should be a "required" field
  ✓ should be valid if some value is present
#phone
  ✓ should be invalid if empty
  ✓ should have "required" validation
  ✓ should accept only numbers(pattern validation)
  ✓ should have 10 digits(minlength & maxlength validation)
#address - zip
  ✓ should be a number
  ✓ should have 6 digits exactly
Finished in 0.969 secs / 0.965 secs @ 09:47:45 GMT+0000 (Coordinated Universal Time)
SUMMARY:
✓ 11 tests completed

```