**App.component.ts**

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

@Component({

selector: 'app-root',

templateUrl: './app.component.html',

styleUrls: ['./app.component.sass']

})

export class AppComponent {

title = 'Angular Unit Testing';

}

**App.html**

<!--The content below is only a placeholder and can be replaced.-->

<div style="text-align:center">

<h1>

Welcome to {{title}}!

</h1>

<img width="300" src="data:image/svg+xml;base64,">

</div>

<nav>

<a routerLink="/home" routerLinkActive="active">Home</a>

<a routerLink="/users" routerLinkActive="active">Users</a>

<a routerLink="/about" routerLinkActive="active">About</a>

<a routerLink="/contact" routerLinkActive="active">Contact</a>

</nav>

<router-outlet></router-outlet>

App.component.spec.ts

import { QuoteTextComponent } from './components/quote-text/quote-text.component';

import { TestBed, async } from '@angular/core/testing';

import { APP\_BASE\_HREF } from '@angular/common';

import { RouterModule, Routes } from '@angular/router';

import { AppComponent } from './app.component';

import { HomeComponent } from './components/home/home.component';

import { AboutComponent } from './components/about/about.component';

describe('AppComponent', () => {

const routes: Routes = [

{ path: 'home', component: HomeComponent },

{ path: 'about', component: AboutComponent },

{ path: '', redirectTo: '/home', pathMatch: 'full'}

];

beforeEach(async(() => {

TestBed.configureTestingModule({

declarations: [

AppComponent,

HomeComponent,

AboutComponent,

QuoteTextComponent

],

imports: [

RouterModule.forRoot(routes)

],

providers: [

{ provide: APP\_BASE\_HREF, useValue: '/' }

]

}).compileComponents();

}));

it('should create the app', async(() => {

const fixture = TestBed.createComponent(AppComponent);

const app = fixture.debugElement.componentInstance;

expect(app).toBeTruthy();

}));

it(`should have as title 'Angular Unit Testing'`, async(() => {

const fixture = TestBed.createComponent(AppComponent);

const app = fixture.debugElement.componentInstance;

expect(app.title).toEqual('Angular Unit Testing');

}));

it('should render title in a h1 tag', async(() => {

const fixture = TestBed.createComponent(AppComponent);

fixture.detectChanges();

const compiled = fixture.debugElement.nativeElement;

expect(compiled.querySelector('h1').textContent).toContain('Welcome to Angular Unit Testing!');

}));

});

**About.component.html**

<div>

{{ text }}

</div>

**About.component.ts**

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

@Component({

templateUrl: './about.component.html',

styleUrls: ['./about.component.sass']

})

export class AboutComponent {

text = 'about page';

}

**About.component.spec.ts**

import { TestBed, async } from '@angular/core/testing';

import { AboutComponent } from './about.component';

describe('AboutComponent', () => {

beforeEach(async(() => {

TestBed.configureTestingModule({

declarations: [

AboutComponent

],

}).compileComponents();

}));

it(`should have as text 'about page'`, async(() => {

const fixture = TestBed.createComponent(AboutComponent);

const app = fixture.debugElement.componentInstance;

expect(app.text).toEqual('about page');

}));

});

**Home.component.ts**

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

@Component({

templateUrl: './home.component.html',

styleUrls: ['./home.component.sass']

})

export class HomeComponent {

text = 'home page';

quoteText = 'this text is meant to be quoted';

}

**Home.component.html**

<div>

{{ text }}

</div>

<app-quote-text [text]="quoteText"></app-quote-text>

**Home.component.spec.ts**

import { QuoteTextComponent } from './../quote-text/quote-text.component';

import { TestBed, async } from '@angular/core/testing';

import { HomeComponent } from './home.component';

describe('HomeComponent', () => {

beforeEach(async(() => {

TestBed.configureTestingModule({

declarations: [

HomeComponent,

QuoteTextComponent

],

}).compileComponents();

}));

it(`should have as text 'home page'`, async(() => {

const fixture = TestBed.createComponent(HomeComponent);

const app = fixture.debugElement.componentInstance;

expect(app.text).toEqual('home page');

}));

});

**Quote-text.component.ts**

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

@Component({

selector: 'app-quote-text',

templateUrl: './quote-text.component.html',

styleUrls: ['./quote-text.component.sass']

})

export class QuoteTextComponent {

@Input() text: string;

}

**Quote-text.component.html**

<q>{{ text }}</q>

**Quote-text.component.spec.ts**

import { TestBed, async } from '@angular/core/testing';

import { QuoteTextComponent } from './quote-text.component';

describe('HomeComponent', () => {

beforeEach(async(() => {

TestBed.configureTestingModule({

declarations: [

QuoteTextComponent

],

}).compileComponents();

}));

it(`should render @input`, async(() => {

const fixture = TestBed.createComponent(QuoteTextComponent);

const app = fixture.debugElement.componentInstance;

app.text = 'test quote';

fixture.detectChanges();

expect(fixture.nativeElement.querySelector('q').innerText).toEqual('test quote');

}));

});

**User.service.ts**

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

@Injectable()

export class UserService {

constructor() { }

getUsers(): Array<{}> {

return [

{

name: 'user1',

surname: 'usersurname1'

},

{

name: 'user2',

surname: 'usersurname2'

}

];

}

}

**User.component.ts**

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

import { UserService } from './user.service';

@Component({

templateUrl: './user.component.html',

styleUrls: ['./user.component.sass']

})

export class UserComponent {

text = 'user page';

users;

constructor(private userService: UserService) {

this.users = this.userService.getUsers();

}

}

**user.component.html**

<div \*ngFor='let item of users; let i = index'>

<p>{{i}} {{item.name}} - {{item.surname}}</p>

</div>

**User.component.spec.ts**

import { UserService } from './user.service';

import { TestBed, async, ComponentFixture } from '@angular/core/testing';

import { BrowserModule, By } from '@angular/platform-browser';

import { DebugElement } from '@angular/core';

import { UserComponent } from './user.component';

import { UserServiceMock } from '../../mocks/user.service.mock';

describe('ContactComponent', () => {

let comp: UserComponent;

let fixture: ComponentFixture<UserComponent>;

beforeEach(async(() => {

TestBed.configureTestingModule({

declarations: [

UserComponent

],

providers: [

{ provide: UserService, useClass: UserServiceMock }

]

}).compileComponents().then(() => {

fixture = TestBed.createComponent(UserComponent);

comp = fixture.componentInstance; // UserComponent test instance

});

}));

it(`should have one user`, async(() => {

expect(comp.users.length).toEqual(1);

}));

it(`html should render one user`, async(() => {

fixture.detectChanges();

const el = fixture.nativeElement.querySelector('p');

expect(el.innerText).toContain('user1');

}));

});

**user.mock.service**

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

@Injectable()

export class UserServiceMock {

constructor() { }

getUsers(): Array<{}> {

return [

{

name: 'user1',

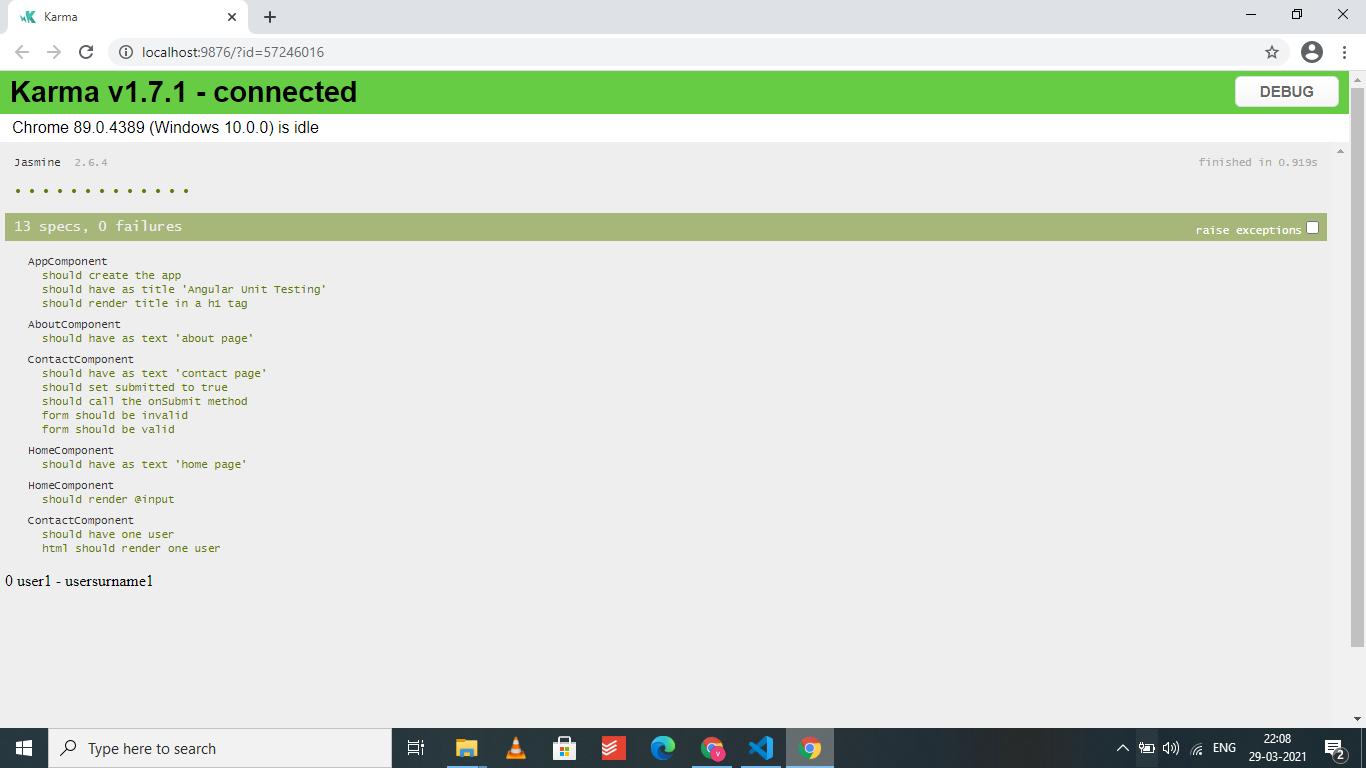
surname: 'usersurname1'

}

];

}

}

****