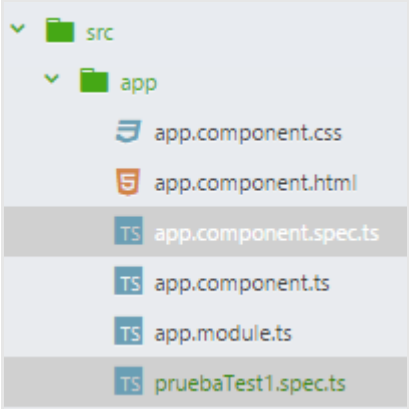
GFT

Angular testing

GFT INTERNAL TRAINING

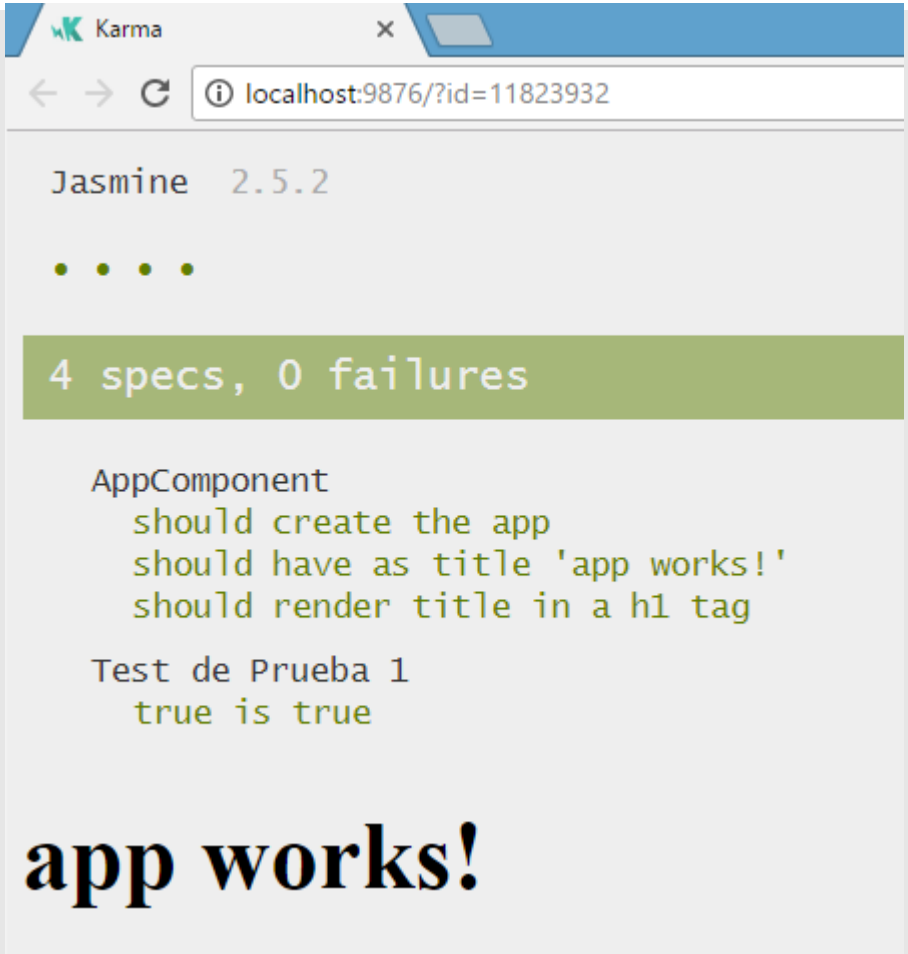
INNOVATE. TRANSFORM. DELIVER.




```
describe('Test de Prueba 1', () => {
  it('true is true', () => expect(true).toBe(true));
});
```

npm test

```
ctive ...ruebatest\src\app\pruebatest1.spe
 Executed 1 of 4 SUCCESS (0 secs / 0.149 s
 Executed 2 of 4 SUCCESS (0 secs / 0.187 s
 Executed 3 of 4 SUCCESS (0 secs / 0.228 s
 Executed 4 of 4 SUCCESS (0 secs / 0.228 s
 Executed 4 of 4 SUCCESS (0.236 secs / 0.2
```



testing components

async()

```
beforeEach(async(() => {
  TestBed.configureTestingModule({
    declarations: [
      AppComponent
    ],
  }).compileComponents();
}));
```

runs the body of a test (it) or setup (beforeEach) function within a special async test zone

```
it('should create the app', async(() => {
  const fixture = TestBed.createComponent(AppComponent);
  const app = fixture.debugElement.componentInstance;
  expect(app).toBeTruthy();
}));
```

https://angular.io/api/core/testing/async

TestBed.configureTestingModule

```
beforeEach(async(() => {
  TestBed.configureTestingModule({
    declarations: [
      AppComponent
    ],
  }).compileComponents();
}));
```

produce the module environment for the class you want to test

https://angular.io/guide/testing#testbed

TestBed.createComponent

returns a **ComponentFixture**, a handle on the test environment surrounding the created component

```
it('should create the app', async(() => {
  const fixture = TestBed.createComponent(AppComponent);
  const app = fixture.debugElement.componentInstance;
  expect(app).toBeTruthy();
}));
```

https://angular.io/guide/testing#component-fixture

reference to the instance of the component

```
it('should create the app', async(() => {
  const fixture = TestBed.createComponent(AppComponent);
  const app = fixture.debugElement.componentInstance;
  expect(app).toBeTruthy();
}));
```

```
it(`should have as title 'app'`, async(() => {
  const fixture = TestBed.createComponent(AppComponent);
  const app = fixture.debugElement.componentInstance;
  expect(app.title).toEqual('app');
}));
```

accesing the DOM

```
const fixture = TestBed.createComponent(AppComponent);
fixture.detectChanges();
const compiled = fixture.debugElement.nativeElement;
expect(compiled.querySelector('h1').textContent).toContain('app works!');
```

- Once the component is created, we call to its **detectChanges** method, in order to reflect to the DOM, the possible changes that can may occurred (due to, for instance, an AJAX call)
- we can use DOM API methods such as **querySelector** to access the nodes and verify its content

learn by doing

- add this to app component

```
export class AppComponent {
  title = 'app';
  motto = 'GFT rules!!'
}
```

```
<!--The whole content below can be removed with the new code.-->
<div style="text-align:center">
  <h1>
    Welcome to {{title}}!!
  </h1>
  <p>{{motto}}</p>
  <p>Just a paragraph</p>
```

learn by doing

- do this testing

```
AppComponent
  should create the app
  should have as title 'app'
  should have as motto 'GFT rules!!'
  should render motto in a p tag
  should render two <p>
```

testing services

testing services

```
describe('DiceService', () => {
  beforeEach(() => {
    TestBed.configureTestingModule({
      providers: [DiceService]
    });
  });

  it('should be created', inject([DiceService], (service: DiceService) => {
    expect(service).toBeTruthy();
  }));
});
```

learn by doing

- test the DiceService

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

@Injectable()
export class DiceService {

  constructor() { }

  throwDice(){
    return Math.floor(6*Math.random()+1);
  }
}
```

learning resources

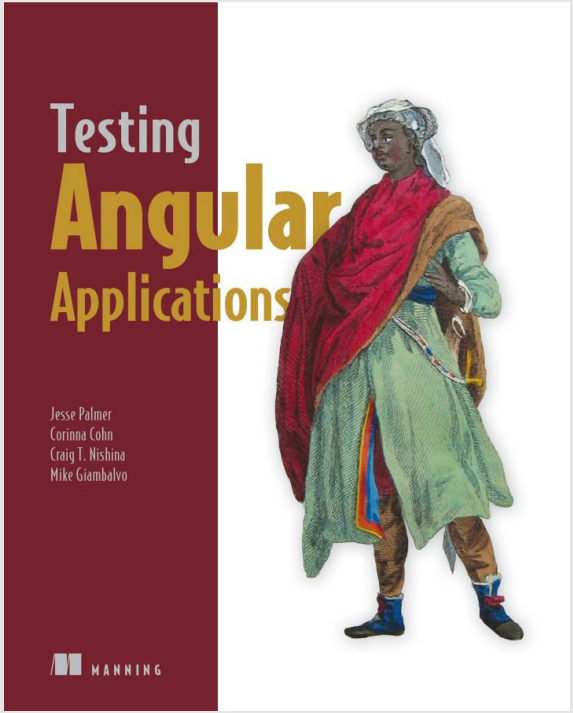
Video

Protractor: A New Hope - Michael Giambalvo, Craig Nishina

https://www.youtube.com/watch?v=6aPfHrSl0Qk&t=0s&index=23&list=PLqn52Dxq8AiVUHmj53FjZnku8iaypiYeR

Book

https://www.manning.com/books/testing-angular-applications



Shaping the future of digital business

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