

Unit Testing Your Angular Code



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Agenda

Introduction

Karma

Services

Isolated Component Tests



Unit Test

A test of a single “unit” of code.



Unit Tests vs End to End Tests

Unit Test

Fast

Involve Isolated Pieces of Code

End to End Test

Slow

Exercises the Entire System



Good Unit Tests



Fast

Cheap to Write

Single State Change

Assert 1 Thing

Doesn't Cross Process Boundaries

Reliable



Unit Test Structure

AAA

Arrange

Act

Assert

Damp

Can Have Some Duplication

Tells the Story



```
var user = new User("Sally");
```

```
user.friends = ["Ralph"]
```

```
user.addFriend("John");
```

```
expect(user.friends.length)
```

```
    .toBe(2);
```

◀ Arrange

◀ Act

◀ Assert



```
var user = new User("Sally");
```

```
user.friends = ["Ralph"]
```

```
user.addFriend("Ralph");
```

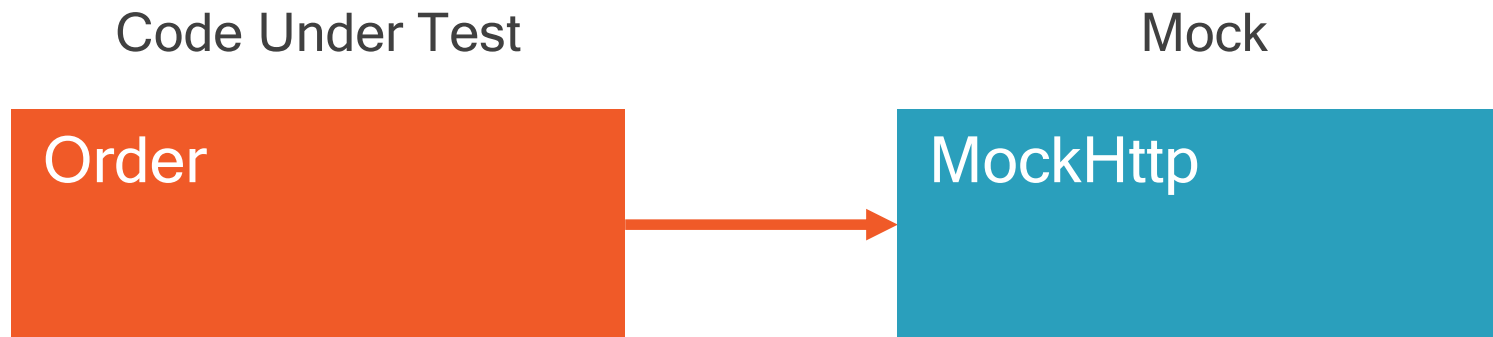
```
expect(user.friends.length)
```

```
  .toBe(1);
```

◀ Remove Duplication?



Mocking



Jasmine

describe()

beforeEach()

it()

expect()

Matchers

- toBe()
- toContain()
- toBeDefined()



Karma

Runs Tests in Browser

Multiple Browsers

Reports Test Run Results



Isolated vs Integrated Tests

Isolated Tests

Test Class Only - No Template

Constructed in Test

Simple

Best for Services & Pipes

Appropriate for Components & Directives

Integrated Tests

Test Class & Template

Constructed by Framework

Complex

Mainly Used for Components & Directives

Sometimes Used for Services

Deep or Shallow



Summary



Karma & Jasmine
Services

Mocking

Isolated Component Tests

