

Testing Clientside JavaScript

Mocking

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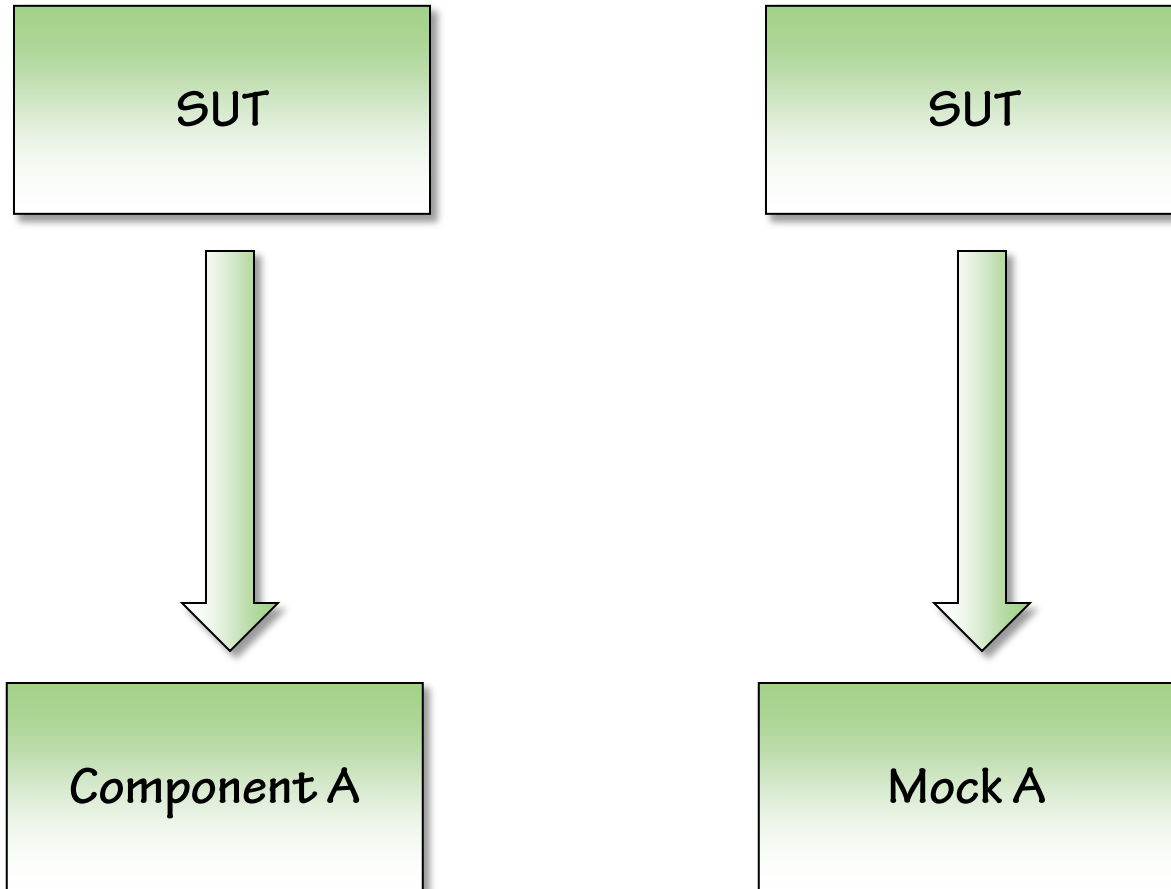
Overview

- Introduction to Mocking
- Why we mock
- Benefits & Drawbacks
- Types of mocks
- Challenges in JavaScript
- Writing our own mocking library
- Mocking with Jasmine
- Mocking with Sinon

Why Mocking?

- Isolation
- Easy flow control
- Remove interaction with complex or external systems
- Testing interactions

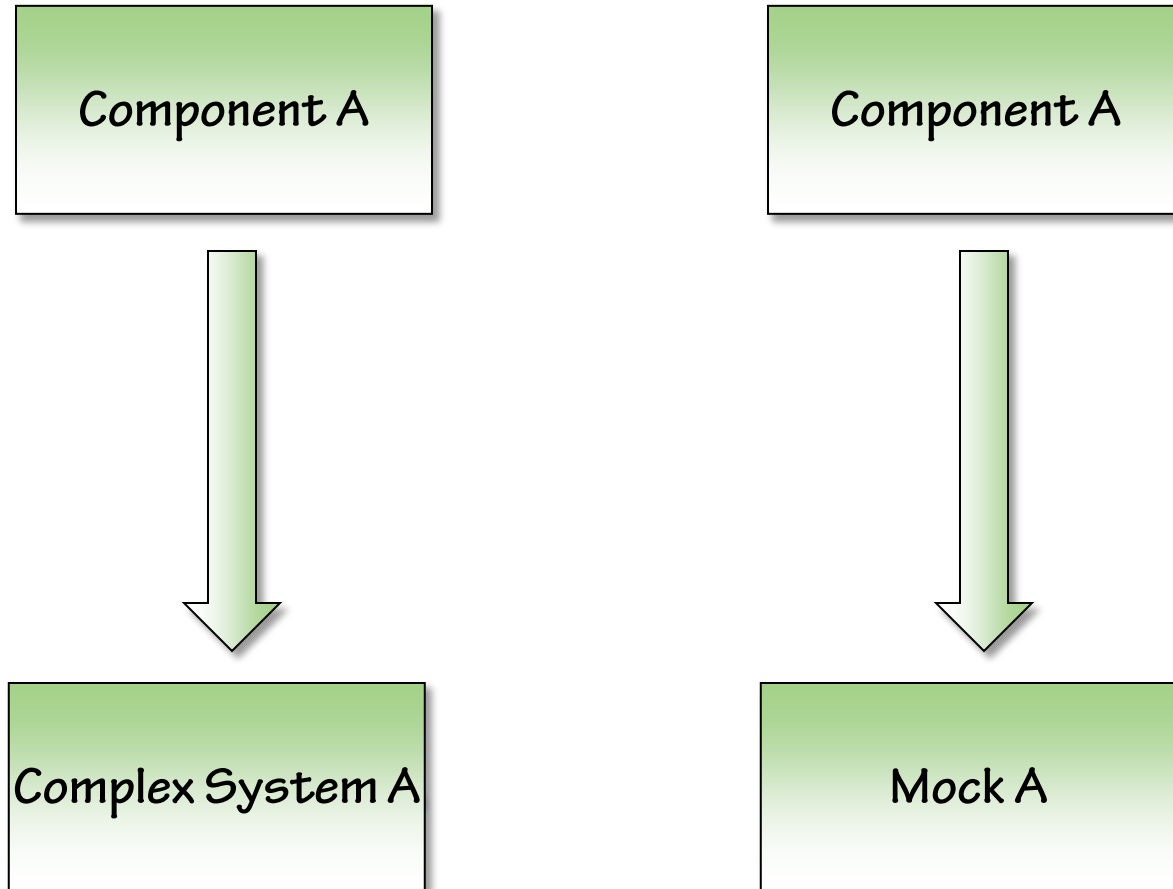
Isolation



Flow Control

```
if(componentA.checkSomething()) {  
    doSomething1();  
} else {  
    doSomething2();  
}
```

Exclude Complex Systems



Testing Interactions

```
save: function(persister) {  
  if(this.isNew()) {  
    persister.insert(this);  
  } else {  
    persister.update(this);  
  }  
}
```

Why Mocking?

- Isolation
- Easy flow control
- Remove interaction with complex or external systems
- Testing interactions

Types of Mock Objects (Test Doubles)

- <http://www.martinfowler.com/bliki/TestDouble.html>
- **Test Double (mock)**
 - Dummy
 - Fake
 - Stub
 - Spy
 - Mock

Mocking in JavaScript

- **Issues in JavaScript mocking**
 - No interfaces
 - Freestanding functions
 - Dynamic objects
- **Mocking functions**
 - replace the function with a test double
- **Mocking Objects**
 - By Hand
 - Mock an existing object

Mocking Implementation – By Hand

Class A

Method1()

Method2(object1, bool1)

```
var interface = { method1: function() {},  
  method2: function(object1, bool1) {} };
```

```
// Create a mock  of interface
```

Mocking Implementation – Live Object

Class A

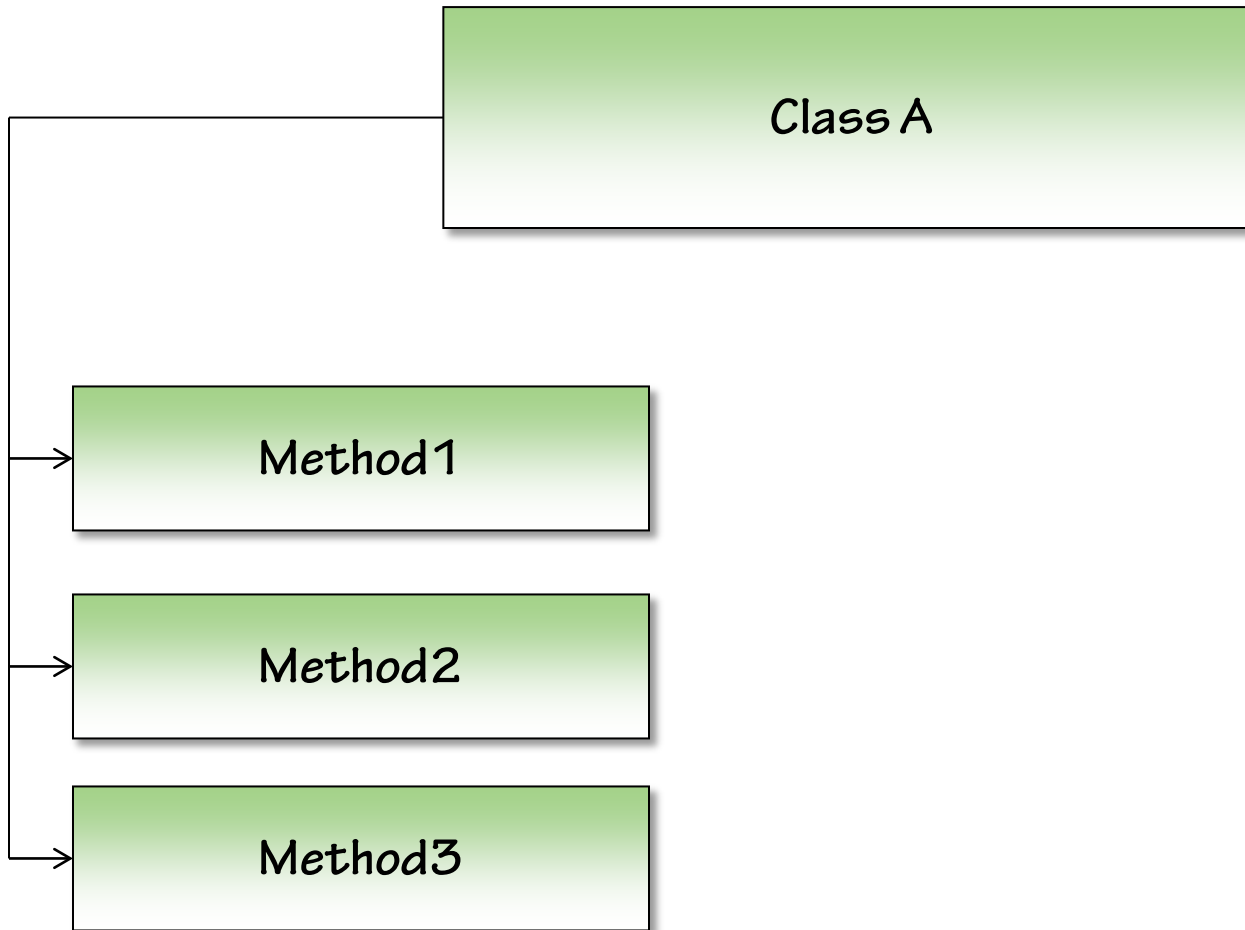
Method1()

Method2(object1, bool1)

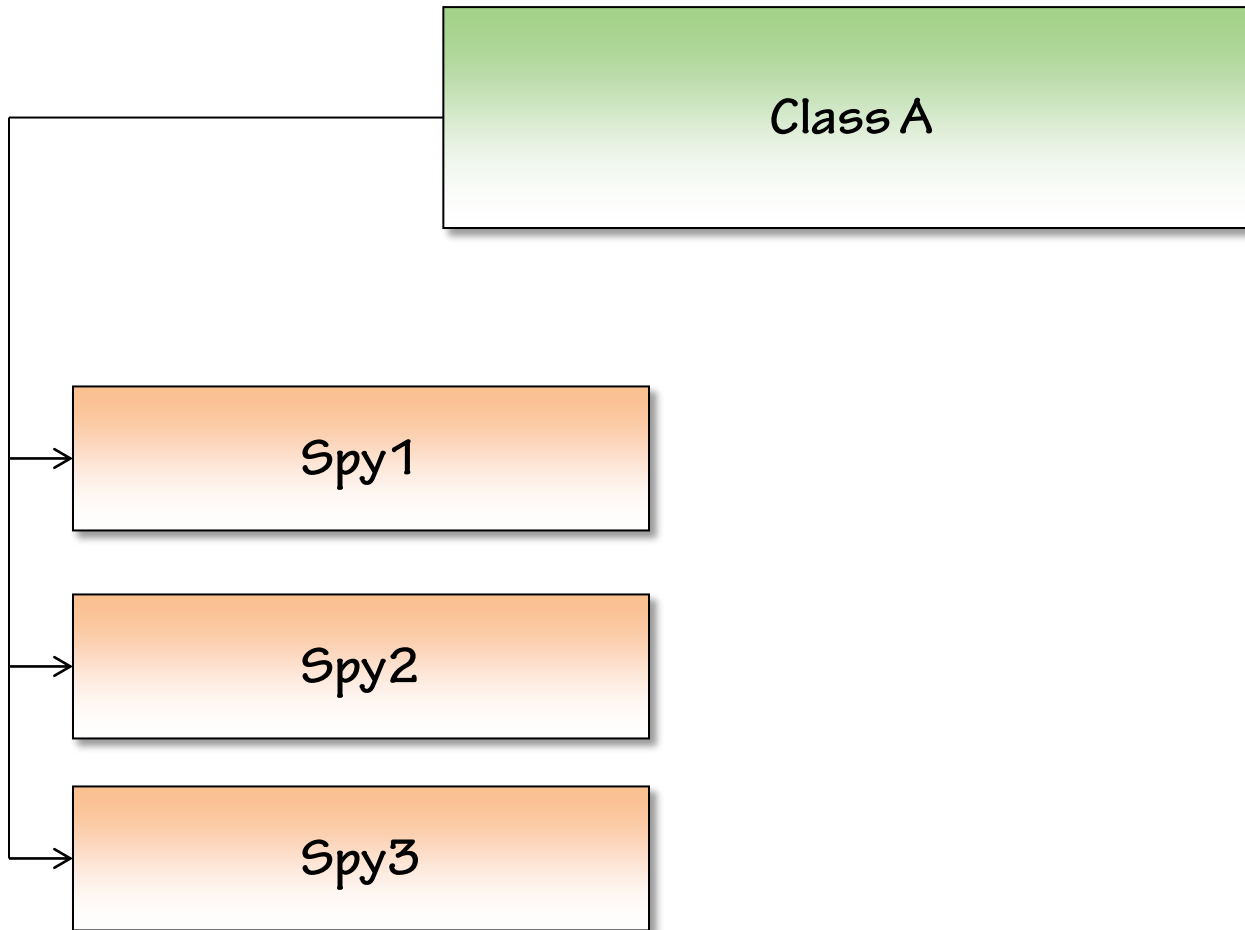
```
var classA = new ClassA();
```

```
// Create a mock of classA
```

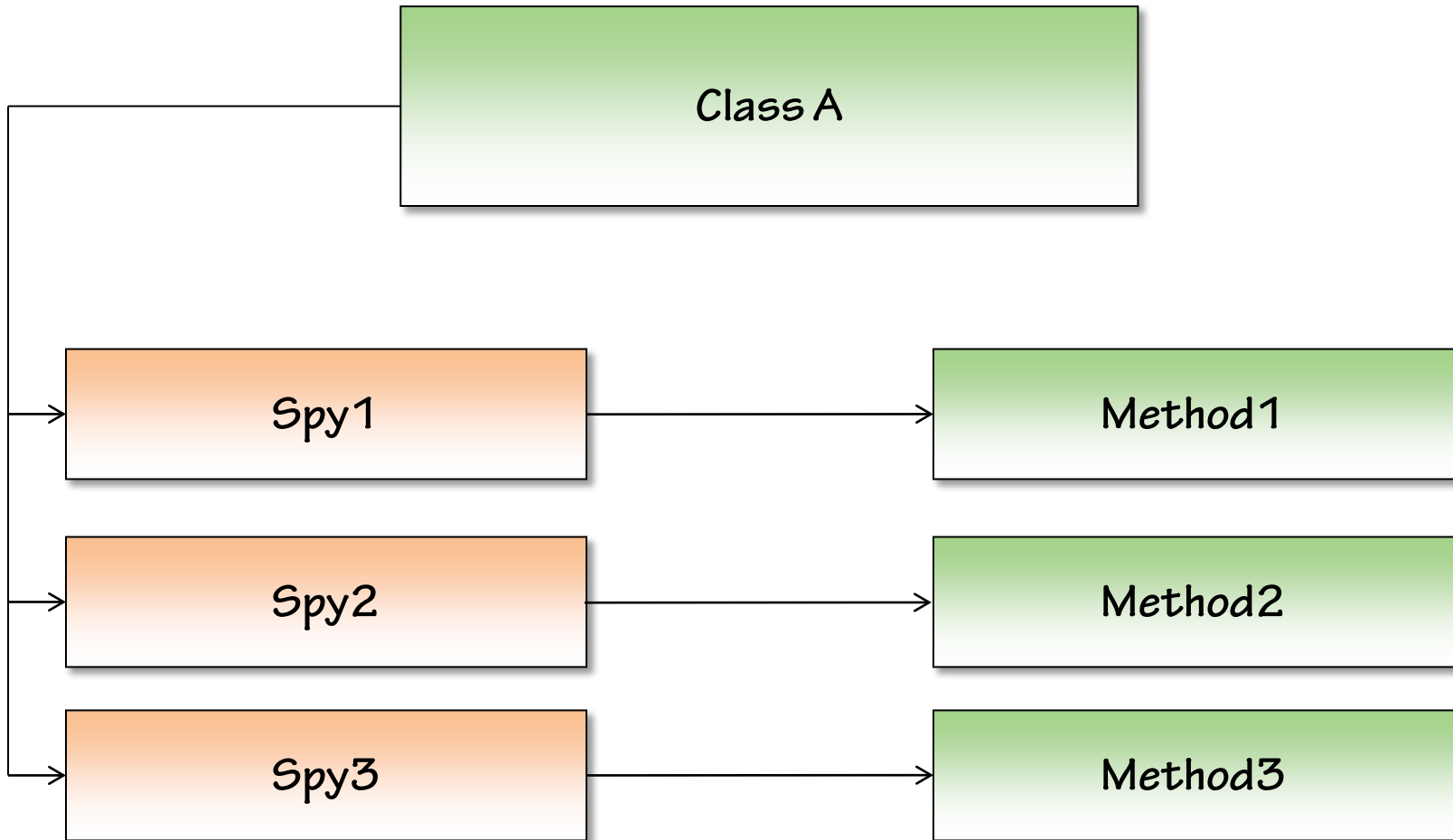
Mocking Objects



Replacing Methods with Spies



Intercepting Methods with Spies



Summary

- **Reasons to Mock**
 - Isolation
 - Easy flow control
 - Remove interaction with complex or external systems
 - Testing interactions
- **Types of mocks**
 - Dummy
 - Fake
 - Stub
 - Spy
 - Mock
- **Challenges in JavaScript**
- **Writing our own mocking library**