



Spock

I have been, and always shall be, your
friendly testing framework

Who Am I?

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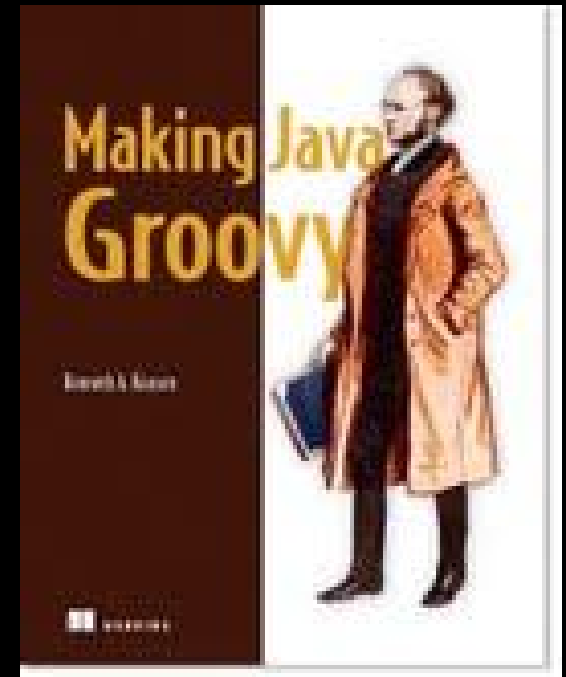
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Making Java Groovy

<http://manning.com/kousen>



What is Spock?

Testing framework

Written in Groovy and Java

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Testing framework

Written in Groovy and Java

A logical framework for enterprise testing



What is Spock?

Testing framework

Written in Groovy

A logical framework for enterprise testing

Combination of
Specification + Mock



The Search for Spock

Spock home page

<http://spockframework.org>

redirects to

<http://code.google.com/p/spock>

Github

<https://github.com/spockframework/spock>

Docs

<https://spockframework.github.io>

Create a Spock test

Extend `spock.lang.Specification`

```
class MySpec extends Specification
```

Simple Specification

A decorative L-shaped bar is positioned on the left side of the slide. It consists of a vertical yellow segment and a horizontal segment that is divided into three colored parts: yellow, purple, and red.

Demo: Palindrome Checker

Fixture Methods

```
def setup() {}  
    run before every feature method  
def cleanup() {}  
    run after every feature method  
def setupSpec() {}  
    run before first feature method  
def cleanupSpec() {}  
    run after last feature method
```

Fixture Methods

Spock

setup
cleanup
setupSpec
cleanupSpec

JUnit

setUp, @Before
tearDown, @After
@BeforeClass
@AfterClass

Feature Methods

Test methods

```
def "descriptive name"() {  
    // blocks  
}
```

Blocks

```
setup:      cleanup:  
given:
```

Syntactic sugar

Anything before when: or expect:

Blocks

setup: cleanup:

given:

when:

Stimulus

then:

Response, booleans are checked



Blocks

setup: cleanup:

given:

when:

Stimulus

then:

Response, booleans are checked

expect:

where:



when: and then:

when:

Contents are arbitrary

then:

conditions

exceptions

interactions (mocks described below)

when/then Always occur together

old Method

what they thought old Kirk
would look like

Sweet method in Specification class

expression value before
when block

```
when: obj.count()  
then:  
count == old(count) + 1
```



William Shatner

"Turning 80 is Monstrous"

what he actually looks like

@Shared

Annotation for shared objects

Note: instance fields are not shared

```
@Shared
```

```
Sql sql = Sql.newInstance(...)
```

@Shared

A decorative L-shaped bar is positioned in the top-left corner of the slide. The horizontal part of the bar is composed of four segments: yellow, purple, yellow, and red. The vertical part of the bar is yellow.

Demo: RESTful services

Exceptions

are exceptions evil or just
goatees?

`thrown()` and `notThrown()`

then:

```
thrown(SQLException)
```

```
-- or --
```

```
SQLException e = thrown()
```

```
e.sqlCode == ...
```



Can do work after catching exception

Parameterized feature methods

Tests that iterate through data

Use `where:` clause

```
expect: name.size() == length
```

where:

```
[name,length] << [['Kirk',4],['Spock',5]]
```

Data Table

where: clause supports data tables

```
expect: name.size() == length
```

where:

name		length
'Kirk'		4
'Spock'		5
'McCoy'		5

Shouldn't Data run on
Android?



where: clause

Supports anything Groovy can iterate over

```
expect: x + y == z
```

```
where:
```

```
[x,y,z] << sql.rows(  
    'select x,y,z from ...')
```

@Unroll

Display separate message
for each row of data

```
@Unroll  
def "my test #var ..." () { ... }
```

Data Specs

Demos:

Hello, Spock!

DataDriven

DatabaseDriven

StadiumLocationsSpec

Interactions

Working with Mock objects

interaction



NO KILL I

Creating Mocks

Two syntax options:

```
def items = Mock(List)
```

```
List items = Mock()
```

Can mock interfaces with standard libs

Mock classes with CGLIB

Setting Expectations

Use >> operator

```
list.get(0) >> 'data'
```

Use >>> operator

```
list.get(0) >>> ['a', 'b']
```

First call to get(0) → 'a'

Second and sub calls → 'b'

Optional

No cardinality

Must have return value

then:

```
list.get(0) >> 'data'
```

Required

Must have cardinality

May have return value

then:

```
1 * list.get(0) >> 'data'
```

then:

```
3 * list.size()
```

Cardinalities

Ranges with wildcard

Wildcard is _ (underscore)

```
3 * list.size()           // 3 times  
(3.._) * list.size()      // 3 or more  
(_..3) * list.size()      // up to 3
```

All sorts of constraints

Regex

Any set method with one arg

```
pojo.set.*(_)
```

Nulls, not null

```
pojo.method(!null)
```

Testing Invocation Order

Use multiple **then** blocks

```
def 'testing order of methods'() {  
  when: obj.method()  
  
  then: 1*collaborator.method1()  
  then: 1*collaborator.method2()  
}
```


Interactions

Demos:

PublisherSubscriber

TribbleSpec



Extensions



@Timeout

@Ignore

@IgnoreRest

Extensions

@Ignore

Don't run a particular test or test class

Optional value = reason

@IgnoreRest

Don't run any OTHER tests

Extensions

```
@IgnoreIf({ os.windows })
```

Run everywhere other than windows

```
@Requires({ os.windows })
```

Run only on windows

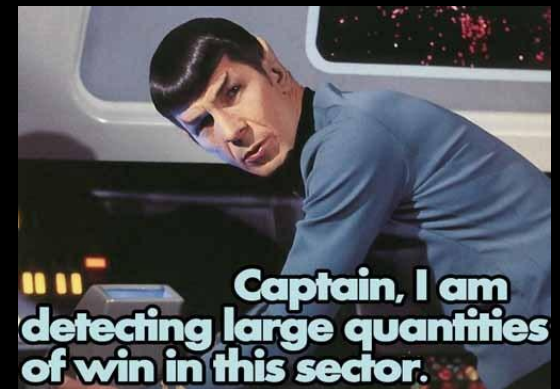
BDD

Behavior Driven Development

Each block accepts string description

Just documentation

```
def "number of tribbles in storage compartment"() {  
  given: "average litter of 10"  
  and: "new generation every 12 hours over a period of three  
days"  
  when: "tribbles get into storage compartments"  
  then: "compute number of tribbles"  
}
```



Spock's Own Tests

Like most modern open source projects

Documentation can be thin or outdated

Tests are excellent

See "smoke" tests in source

Links

<http://github.com/spockframework/spock>

<http://code.google.com/p/spock>

<http://spockframework.org>

<http://meet.spockframework.org>

<http://groups.google.com/group/spockframework?pli=1>

Source code for examples is from

1. spock-example project

<https://github.com/spockframework/spock-example>

2. my GitHub repo

<https://github.com/kousen/spock-workshop>

Session Evals

Please complete your session evals

