



# Spock

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

# Who Am I?

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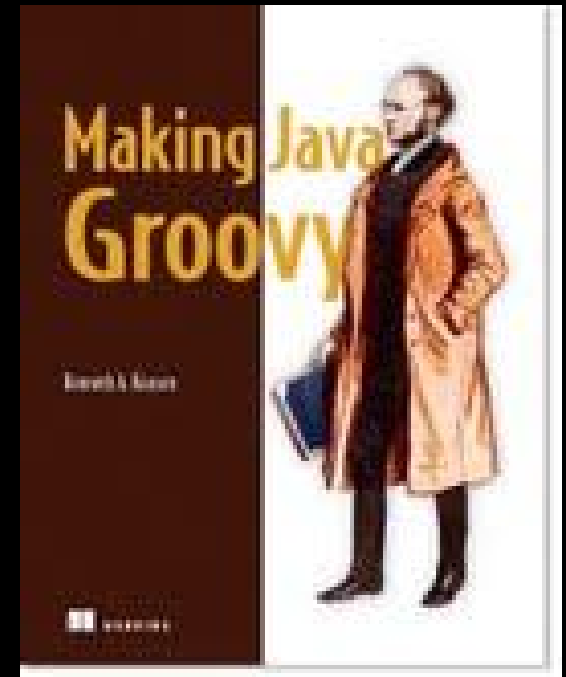
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Making Java Groovy

<http://manning.com/kousen>



# What is Spock?

Testing framework

Written in Groovy

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A logical framework for enterprise testing



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Testing framework

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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>

# 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
```

Like JUnit 4:

```
@Before, @After,  
@BeforeClass, @AfterClass
```

# 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)

Always occur together

# old Method

what they thought old Kirk  
would look like

Sweet method in Specification class

expression value before  
where 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. It consists of a vertical yellow segment on the left and a horizontal bar extending to the right. The horizontal bar is divided into four colored segments: yellow, purple, yellow, and red.

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'
```

# Global vs Local

Global:

Defined outside `then: block`  
Valid to end of feature method

Local:

Defined inside `then: block`  
Valid inside preceding `when: block`

# 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

@FailsWith

# @Ignore and @IgnoreRest

@Ignore

Don't run a particular test or test class

Optional value = reason

@IgnoreRest

Don't run any OTHER tests

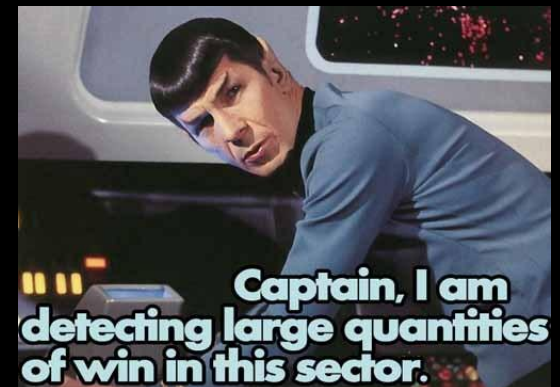
# BDD

## 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-NFJS-Article>

# Session Evals

Please complete your session evals

