



Testing Spring

Beginner to Guru

Common Java Testing Frameworks



JUnit



- The most popular testing framework for Java.
- Currently JUnit 4 is widely used in the industry
- JUnit 5 was released in September of 2017
 - Rapidly gaining popularity
- JUnit 5 will be the primary focus in this course
 - Section for migrating from JUnit 4 to 5





TestNG



- Created by Cédric Beust in 2004 as an alternative to JUnit
- Cédric wished to address deficiencies in JUnit
- Functionality of TestNG and JUnit have evolved to be very close.
- Still popular, but much smaller base
- Currently not covered in this course





Spock



- Testing Framework in Groovy for testing Java
- Does require knowledge of Groovy
- Follows BDD approach
- Includes own Mocking framework
- Subject of my 2013 Talk at Spring One
- Very popular where Groovy is used





Cucumber

cucumber 

- BDD Testing Framework
- Available for Java, Javascript, and Ruby
 - Very popular in Ruby community
 - Gaining popularity in Java community
- Uses Gherkin syntax
 - Natural English like syntax
 - Describe the what, not the how





Mockito



- Mocking framework for testing
 - Only does mocks
 - Need to use with testing framework such as JUnit or TestNG
- Top 10 Java Library
- Very popular for testing Spring applications
- Will be covered in this course





Spring MVC Test



- Testing module found in the Spring Framework
- Very versatile for testing Spring MVC Controllers
- Provides mock Servlet environment
- Used in conjunction with a testing framework such as JUnit, TestNG, or Spock





REST Assured

REST-assured

- Java framework for testing RESTful web services
- Provides very powerful DSL for testing Restful interfaces
- Can be used with Spring Mock MVC
- Tests follow a BDD Syntax





Selenium



- Web Browser Automation
- Allows you to write functional tests against web applications
- Only Web Browser Automation
 - Need to use a Testing Framework such as JUnit, TestNG, or Spock





GEB



- Groovy Browser Automation
- Uses Selenium under the covers
- Has JQuery-ish page element selectors
- Needs to be used with a Test Framework
 - Very popular to use with Spock





Test Containers



- Allows you to launch Docker containers from JUnit Tests
- Allows you to start databases, message brokers, etc for integration and functional tests.
- Can be combined with Selenium for testing web applications



