

Extracted from:

The Cucumber for Java Book

Behaviour-Driven Development
for Testers and Developers

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The
Pragmatic
Programmers

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Behaviour-Driven
Development for
Testers and
Developers

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and Aslak Hellesøy

edited by Jacquelyn Carter



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Preface

Companies often have huge issues with trust—the customer doesn't trust the supplier, the business doesn't trust the developers, the developers don't trust the testers, and the testers don't trust anyone. Cucumber gives the business, developers, and testers a way to collaborate and specify, in plain English, how the system should work. We've seen how these conversations over a simple Cucumber specification can begin the process of recuperation.

Out of these conversations grow a set of specifications that all stakeholders could understand. Cucumber enables the direct automation of the specification, which means that anyone can see, at a glance, what functionality has been implemented and what hasn't. It also gives the development team a safety net so that they get early feedback if a change they're working on has broken any existing functionality. And it frees your testers up to do interesting, creative work instead of regularly running through a repetitive, manual regression pack.

Cucumber has now been used by thousands of teams who have derived benefit from it in different ways. Those of us who were drawn to Cucumber from the beginning instinctively realized that it's more than a test automation tool; it's a collaboration tool. Let's be clear about this—Cucumber can be used for test automation—but this was not the intent of its creators, and some of our design choices reflect this. By writing this book, we hope to show you not just how to use Cucumber but how to use it well.

Cucumber was originally written in Ruby. Over the years it has become incredibly popular and has been ported to plenty of other languages. This book is a Java version of *The Cucumber Book*, containing the same great advice about how to deliver rock-solid applications collaboratively, but with all code completely rewritten in Java and new chapters that cover features unique to the Java version of Cucumber.

Who This Book Is For

Cucumber is designed to help build bridges between the technical and non-technical members of a software team, and we've tried to consider both of those readers. The majority of the book is written to the technical reader, someone who is interested in test automation and already has some programming skill. However, several of the chapters—especially in the first part of the book where we explain how to write specifications—are written with the nontechnical reader very much in mind. Specifically, those chapters are:

- [Chapter 1, *Why Cucumber?*, on page ?](#)
- [Chapter 3, *Gherkin Basics*, on page ?](#)
- [Chapter 5, *Expressive Scenarios*, on page ?](#)
- [Chapter 6, *Keeping Your Cucumbers Sweet*, on page ?](#)
- [Chapter 16, *Working with Legacy Applications*, on page ?](#)

As the book develops, we'll look at more complex testing situations, and the level of technical know-how required to read the chapters will increase.

You Don't Need to Be a Java Expert

Java¹ is a programming language that can be installed and run on all major operating systems. Cucumber has been ported to many programming languages, but this book is about the version written in Java.

That doesn't mean the system you're testing has to be written in Java. Java has many libraries that enable it to talk to other languages and platforms, and we'll show you how to use them to test web-based systems that could be written in any language. Additionally, since the Java Virtual Machine (JVM) supports many programming languages, the Java version of Cucumber works well with programs written in other JVM languages (such as Groovy, Scala, and Clojure).

To follow along with the coding examples in the technical chapters, it will help if you're familiar with Java. Java is not the easiest language to learn, but neither is it the hardest, and the Java examples we'll use are deliberately simple.

It's OK if You're Not Test-Driven

We've had our greatest success with Cucumber as part of an *outside-in* approach, starting with a failing Cucumber test and using that to drive our

1. <http://java.com>

development work on the application code. As developers, this way of working helps us stay honest and avoid the temptation to build in functionality that nobody asked us for, just in case it might be needed one day in the future.

Cucumber is a tool that facilitates this way of working, but it doesn't force it on you. Some teams use Cucumber to automate tests for the work that developers have already done. This can often be a first step toward adopting an outside-in approach, as Cucumber's readable tests start to attract the attention of the team's nontechnical stakeholders, drawing them into the process. Even if you're using Cucumber to write tests against existing code, you'll still get a great deal of benefit from Cucumber over alternatives like QTP and Selenium IDE, and we think you'll still get a lot out of this book. We're not here to preach to you about process, but we will share our insights about what has worked for us and why.

Why You Should Listen to Us

All the authors have been building software for a living for a very long time, and using automated tests for the last ten years. Aslak created Cucumber in 2008, Matt has been one of its most active users from day one, and Seb came to the party a little later, while Cucumber was being ported to Java.

We've used Cucumber to test all kinds of systems: from Ruby on Rails web applications, through Flash games, to enterprise Java web services. We've also trained hundreds of developers in how to use Cucumber, teaching the material in this book at events and companies around the world.

The Cucumber community is full of lively debate, and we've spent many hours of our spare time having our ideas challenged and honed in discussions with other users. We hope we've distilled as much of that knowledge and experience as possible in this book.

How This Book Is Organized

The book is in three parts. In Part I, we'll take you through the core concepts you need to know in order to make use of Cucumber. Novice readers will learn everything they need to know to get up and running, and readers already experienced with Cucumber should pick up plenty of useful detail too.

Part II works through a practical example of developing a new application using Cucumber. You'll pair with us as we build a simple application from scratch, giving you a chance to experience how we like to build software using Cucumber and to consolidate what you've learned in Part I. We'll also teach

you some advanced features of Cucumber that are easier to learn in the context of an example.

In Part III, you'll learn techniques for using Cucumber in situations that weren't covered in the previous worked example, as well as looking in more detail at how to configure Cucumber for Java.

What Is Not in This Book

Although it is possible to test Flash and mobile applications using Cucumber, the details are sadly beyond the scope of this edition. This book covers the Java version of Cucumber that runs natively on the JVM, but using it with other JVM languages will not be covered. Cucumber's wire protocol (a protocol for driving remote systems over a TCP socket) is also out of scope.

Running the Code Examples

This book is full of practical examples, and we encourage you to follow along with them to get the most out of the book. You'll learn the most if you type them in by hand as you read along, but if you'd prefer, you can always download the code examples from the book's website.² To run the examples, you'll need to install the Java language itself as well as the Maven software project management tool. You can find the full instructions in [Appendix 1, *Installing Cucumber, on page ?*](#).

Windows Users

Most of the code examples work just the same on Windows and *nix operating systems. On the rare occasions that they differ, you'll find the Windows version in a sidebar nearby, with a note in the body of the text pointing you there.

You'll soon notice that we've used the \$ symbol for the command prompt. This is familiar to Linux or Mac users but might feel a little unfamiliar to Windows users. So, when you're looking at something like this:

```
$ mvn clean test
```

try to imagine you're seeing this instead:

```
C:\> mvn clean test
```

Other than that, everything should work just the same for everyone.

2. http://pragprog.com/titles/srjcuc/source_code

Online Resources

The apps and examples shown in this book can be found at the Pragmatic Programmers website for this book.³ You'll also find the community forum, for help if you're stuck on one of the exercises in this book, and the errata-submission form, where you can report problems with the text or make suggestions for future versions.

If you have a general question about Cucumber, the Cucumber community will welcome you to their mailing list.⁴ Cucumber is an open source tool, which means that everyone contributing to the group is volunteering their time, so please make sure you've researched your question as thoroughly as you can before you ask for help on the mailing list. People will be much more likely to help you if they can see you're trying to help yourself.

Seb Rose, Matt Wynne, and Aslak Hellesøy

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3. <http://pragprog.com/book/sjrcuc>

4. <https://groups.google.com/forum/#!forum/cukes>