



C o m m u n i t y E x p e r i e n c e D i s t i l l e d

Performance Testing with JMeter 2.9

Learn how to test web applications using Apache JMeter with
practical, hands-on examples

Bayo Erinle

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BIRMINGHAM - MUMBAI

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I would like to thank Guru Mahajatok, because without his guidance I would not be what I am today. He is a great inspiration to me.

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Preface

Performance Testing with JMeter 2.9 is about a type of testing intended to determine the responsiveness, reliability, throughput, interoperability, and scalability of a system and/or application under a given workload. It is critical and essential to the success of any software product launch and its maintenance. It also plays an integral part in scaling an application out to support a wider user base.

Apache JMeter is a free open source, cross-platform performance testing tool that has been around since the late 90s. It is mature, robust, portable, and highly extensible. It has a large user base and offers lots of plugins to aid testing.

This is a practical hands-on book that focuses on how to leverage Apache JMeter to meet your testing needs. It starts with a quick introduction on performance testing, but quickly moves into engaging topics such as recording test scripts, monitoring system resources, an extensive look at several JMeter components, leveraging the cloud for testing, and extending Apache JMeter capabilities via plugins. Along the way, you will do some scripting, learn and use tools such as Vagrant, Puppet, Apache Tomcat, and be armed with all the knowledge you need to take on your next testing engagement.

Whether you are a developer or tester, this book is sure to give you some valuable knowledge to aid you in attaining success in your future testing endeavors.

What this book covers

Chapter 1, Performance Testing Fundamentals, covers the fundamentals of performance testing and the installation and configuration of JMeter.

Chapter 2, Recording Your First Test, dives into recording your first JMeter test script and covers the anatomy of a JMeter test script.

Chapter 3, Submitting Forms, covers form submission in detail. It includes handling various HTML form elements, (checkboxes, radio buttons, file uploads, downloads, and so on), JSON data, and XML.

Chapter 4, Managing Sessions, explains session management, including cookies and URL rewriting.

Chapter 5, Resource Monitoring, dives into active monitoring of system resources while executing tests. You get to start up a server and extend JMeter via plugins.

Chapter 6, Distributed Testing, takes an in-depth look at leveraging the cloud for performance testing. We dive into tools such as Vagrant, Puppet, and AWS.

Chapter 7, Helpful Tips, provides you with helpful techniques and tips for getting the most out of JMeter.

What you need for this book

To follow along with the examples in this book, you will need the following:

- A computer with an Internet connection
- Apache JMeter (<http://jmeter.apache.org/>)
- Java Runtime Environment (JRE) or Java Development Kit (JDK) (<http://www.oracle.com/technetwork/java/javase/downloads/index.html>)

In addition, for *Chapter 4, Resource Monitoring*, you need the following:

- Apache Tomcat (<http://tomcat.apache.org/download-70.cgi>)

And for *Chapter 6, Distributed Testing*, you need the following:

- Vagrant (<http://www.vagrantup.com/>)
- An AWS account (<http://aws.amazon.com/>)

The book contains pointers and additional helpful links in setting all these up.

Who this book is for

The book is targeted primarily at developers and testers. Developers who have always been intrigued by performance testing and wanted to dive in on the action will find it extremely useful and gain insightful skills as they walk through the practical examples in the book.

Testers will also benefit from this book since it will guide them through solving practical, real-world challenges when testing modern web applications, giving them ample knowledge to aid them in becoming better testers. Additionally, they will be exposed to certain helpful testing tools that will come in handy at some point in their testing careers.

Conventions

In this book, you will find a number of styles of text that distinguish between different kinds of information. Here are some examples of these styles, and an explanation of their meaning.

Code words in text, database table names, folder names, filenames, file extensions, pathnames, dummy URLs, user input, and Twitter handles are shown as follows: "Append %JAVA_HOME%/bin to the end of the existing path value (if any)."

A block of code is set as follows:

```
DROP TABLE IF EXISTS TEST;
CREATE TABLE TEST(ID INT PRIMARY KEY, NAME VARCHAR(255));
INSERT INTO TEST VALUES(1, 'Hello');
INSERT INTO TEST VALUES(2, 'World');
```

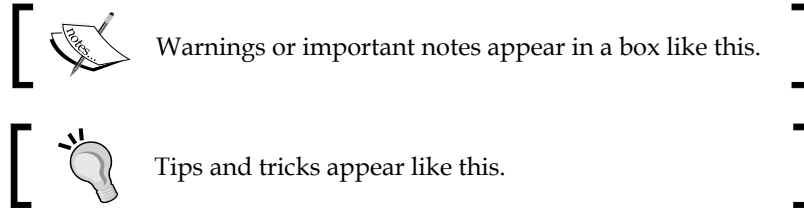
When we wish to draw your attention to a particular part of a code block, the relevant lines or items are set in bold:

```
DROP TABLE IF EXISTS TEST;
CREATE TABLE TEST(ID INT PRIMARY KEY, NAME VARCHAR(255));
INSERT INTO TEST VALUES(1, 'Hello');
INSERT INTO TEST VALUES(2, 'World');
```

Any command-line input or output is written as follows:

```
./jmeter.sh -H proxy.server -P7567 -u username -a password
```

New terms and **important words** are shown in bold. Words that you see on the screen, in menus or dialog boxes for example, appear in the text like this: "clicking the **Next** button moves you to the next screen".



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