Accelerated GWT

Building Enterprise Google Web Toolkit Applications

Vipul Gupta

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Accelerated GWT: Building Enterprise Google Web Toolkit Applications

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To my parents, for always being supportive and loving

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About the Author

VIPUL GUPTA is a software engineer who designs and develops complex web-based applications and distributed software systems. His professional experience includes implementing a virtual file system for a web-based application and developing highly scalable back ends and extremely responsive web-based UIs for high-traffic websites. He has also worked on the prototype of a complex workflow-based solution that is used to handle various business processes. He is an expert in developing enterprise-level applications in the financial domain and has expertise in using a wide range of open source and commercial tools and technologies. Apart from his passion for computer science, he has numerous other interests including Formula 1, table tennis, and water sports.

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Introduction

Among other things, one of the biggest problems faced by a web application developer is the task of making an application compatible with different browsers. So, how does the idea of writing web applications in Java and testing and debugging them right in your favorite Java IDE sound? Exciting, doesn't it? This is what the Google Web Toolkit (GWT) framework lets you achieve. The GWT framework allows you to write and test your web applications in Java and compile the Java code into JavaScript for deployment purposes. Developing in a mature object-oriented language like Java brings with it all the benefits of object-oriented programming like modular design, type safety, and so on, which are essential for any project of even a moderate size.

I was originally skeptical about the idea of a framework supporting various browsers by converting the Java code into JavaScript and also about the quality of JavaScript code created by it. But once I started using the GWT framework and observed the quality of the generated JavaScript, I became convinced that GWT is going to become the de facto standard to write web-based applications in the future.

During the course of this book, you will learn how to use GWT to build high-quality web-based applications that will run across multiple browsers without the tweaks needed to achieve the same while using JavaScript directly. My aim is to provide you with all the knowledge you need to use GWT effectively in your own applications and to give you insight into what is happening behind the scenes in GWT.

Specifically, you will do the following in this book:

- Learn the fundamentals of using GWT to build UIs for your web applications.
- Learn how the framework works internally so you can solve most common programming problems in web-application development.
- Become aware of remote procedure calls and the asynchronous callback mechanism.
- Effectively write test cases for testing the different parts of your applications, including the asynchronous part of server-side communication.
- Learn how to write benchmark tests for your applications.
- Optimize your web applications by using techniques to bundle multiple images into a single image.
- Learn how to write applications with internationalization in mind.
- Design and implement reusable modules.

- Speed up your web application development by testing your applications right from your favorite Java IDE or from the command line, without the need for deploying them on a web server. You will also learn how to compile and convert the Java code into JavaScript and deploy your applications on a web server.
- Learn how GWT solves the problem of making an application compatible with different browsers without additional coding or development effort.

After reading this book, you will be equipped with all the knowledge you need to build applications using GWT.

Who This Book Is For

This book is for Java-minded web developers seeking to incorporate Ajax capabilities into their web applications without sacrificing sound development principles.

Downloading the Code

The code used in the book's examples will be available in Zip file format in the Downloads section of the Apress website (`http://www.apress.com`). The instructions for setting up and running the examples will be available in a Readme.txt file, which is bundled along with the source code. The software programs that are used in the book include Eclipse IDE (`http://www.eclipse.org`), the Tomcat web server (`http://tomcat.apache.org`) and of course the GWT framework library (`http://code.google.com/webtoolkit/download.html`).

Contacting the Author

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