The Definitive Guide to Apache MyFaces and Facelets

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My parents, Rustom and Avan,
whose guidance and encouragement mean the world.
—Zubin Wadia

For the prophet Muhammad,
from whom I learnt all the good things in my life.
—Hazem Saleh

Ainhoa, my wife,
whose support and patience made this book possible.
—Bruno Aranda

Contents at a Glance

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About the Authors

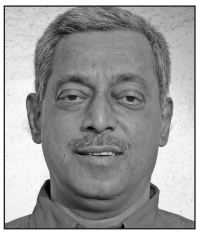
ZUBIN WADIA has seven years of experience in JEE and .NET technologies. His experiences with enterprise content management, workflow, imaging, compression, and security allow him to appreciate a powerful framework that offers a high degree of flexibility and efficiency. In 2005, Zubin designed and deployed an award-winning solution for a criminal justice agency in the government space, leveraging next-generation technologies such as Ajax, Hibernate, Spring, BPEL, and, of course, MyFaces. His current focus is on architecting an enterprisewide contract management platform for the New York City Department of Health. Zubin is CTO at ImageWork Technologies, a leading government systems integrator on the East Coast.

MARTIN MARINSCHEK has eight years of experience in Java EE and open source technologies. He is a MyFaces PMC member and a popular speaker at major open source events such as JavaPolis and ApacheCon. Martin brings dynamism, experience, and innovation to the MyFaces project. Martin is a CEO of Irian, a fast-growing consulting company focused on providing JSF solutions to customers.

HAZEM SALEH has four years of experience in Java EE and open source technologies and is a MyFaces committer. He is the initiator of many components in the MyFaces Tomahawk sandbox such as CAPTCHA, pdfExport, media, and passwordStrength. He is also a yui4jsf committer. He is now working at IBM Egypt as a staff engineer.

DENNIS BYRNE works for ThoughtWorks, a global consultancy with a focus on end-to-end agile software development of mission-critical systems. Dennis is a committer and PMC member for Apache MyFaces. He is also an experienced public speaker and a committer for JBoss JSFUnit.

About the Technical Reviewer



POORNACHANDRA SARANG, PHD, in his long tenure of over 20 years, has worked in various capacities in the IT industry. Dr. Sarang provides consulting and training in enterprise architecting, solution architecting, design, and development to a large number of clients worldwide. He has been a consultant to Sun Microsystems for several years, and his recent engagements include Director, Architecture for Kynetia (a Spanish-origin MNC). He has been a recipient of Microsoft's Most Valuable Professional (MVP) award for two consecutive years. He has spoken in several international conferences on Java, CORBA, XML, and .NET organized by O'Reilly, SYS-CON, WROX, SUN, and Microsoft in various countries such as India, the United States, the United Kingdom, Switzerland, Singapore, and so on. He has been invited to deliver keynote speeches at highly acclaimed Microsoft Architect Summits and several other prestigious events. He has several research papers, journal articles, and books to his credit.

Dr. Sarang has been a visiting professor of computer engineering at University of Notre Dame and currently holds an adjunct faculty position at the Department of Computer Science at the University of Mumbai, where he teaches postgraduate courses, provides project guidance to postgraduate students, and guides PhD students. His current research interests include distributed systems, mobile computing, and algorithm development. He may be reached at `profsarang@gmail.com`.

Acknowledgments

This book would not have been possible without the MyFaces project founders—Manfred Geiler and Thomas Spiegl. Additionally, Jacob Hookom's seminal work with Facelets was a prime driver to increasing JSF adoption in the Java developer community. Without their vision, this comprehensive book would not have an audience.

Additionally, we would like to acknowledge the contributions of Simon Kitching, who is a regular committer to MyFaces and the Orchestra projects. His insight and attention to detail have been valuable to the continuing growth and applicability of Orchestra. Arash Rajaeeyan also provided valuable input, contributions, and insight into Tomahawk and the IDE setup. We are grateful for their inputs.

Finally, we would like to thank the MyFaces and JSF community as a whole for their tireless support and contributions to a variety of subprojects. Without this anarchic collaboration, MyFaces would cease to be competitively differentiated against the Sun Reference Implementation.

Introduction

In the four years that the Sun, IBM, and MyFaces implementations have been available, the MyFaces project has arguably been the front-runner when it comes to innovation and dexterity. It also is the most responsive to user issues and has a vibrant community that ensures progression (you can always find free support on the mailing lists). With JavaServer Faces (JSF) 2.0 around the corner, preparation is already under way as the committers quickly review the early access draft and plan for MyFaces 2.0.

This "anarchic collaboration," a term coined by Roy Fielding, is the essence of the Apache MyFaces project: many talented people share information with a single-minded objective to make JSF a pleasurable developer experience for all. The Tomahawk, Trinidad, Tobago, Orchestra, and MyFaces implementations have been downloaded over a million times. Before the Sun JSF 1.2 implementation was released, we could safely say the MyFaces implementation was the only reliable way to build production JSF applications. Even today, many developers are happy with simply using MyFaces 1.1.x and Facelets to form a potent combination.

This book assumes you are interested in JSF and component-oriented development. It takes you through a journey beginning with the unique aspects of JSF, introduces you to the MyFaces specification, and continues with building your first application. Once you've mastered that, this book advances your skill set further by taking you into the world of the Tomahawk component library. Here, you learn the power of componentization in JSF (you will be able to build a complex application with a few lines of code) and see the advantages of having a vibrant community like MyFaces continually developing new components into the sandbox like CAPTCHA-, media-, exporter-, and AJAX-enabled UI widgets.

Next, we take you into one of the most important chapters in the book—learning to leverage Facelets's powerful view-definition capabilities within your JSF application. After absorbing the material in this chapter, you will be able to write JSF view tiers with greater efficiency and yield more performance out of your applications, as compared to similar applications leveraging classic JSP. The patterns we encourage in this chapter are a result of our more than ten years of cumulative experience with JSF across two of the major Reference Implementations: Sun and MyFaces.

The second half of this book focuses on smaller but equally critical projects to the future of MyFaces: Trinidad, Tobago, and Orchestra. Trinidad and Tobago offer high-quality component libraries that are particularly adept at custom rendition, themes, and layouts. Trinidad's presence is also a testament to the commercial support of MyFaces

by Oracle for its Application Development Framework (ADF). Although a relatively young project, Orchestra offers powerful functionality like conversation scope for persistence-rich JSF applications.

The final chapter weaves together all your newfound knowledge and shows how to avoid some of the common antipatterns new JSF developers often end up pursuing. JSF is a complex specification augmented by a significant number of support frameworks to assist with development. We make sure the details in this book allow you to make educated decisions on which ones to leverage.

Finally, be sure to take advantage of the book's modular nature. We tried to strike a natural balance between this book being a *guide* and a *reference*. Refreshing your memory on a particular topic is extremely easy because of the atomic nature of each chapter. Enjoy!