Foundations of Jini™ 2 Programming

Jan Newmarch

Apress®

Foundations of Jini™ 2 Programming

Copyright © 2006 by Jan Newmarch

All rights reserved. No part of this work may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying, recording, or by any information storage or retrieval system, without the prior written permission of the copyright owner and the publisher.

ISBN-13: 978-1-59059-716-3

ISBN-10: 1-59059-716-8

Printed and bound in the United States of America 9 8 7 6 5 4 3 2 1

Trademarked names may appear in this book. Rather than use a trademark symbol with every occurrence of a trademarked name, we use the names only in an editorial fashion and to the benefit of the trademark owner, with no intention of infringement of the trademark.

Java and all Java-based marks are tradmarks or registered trademarks of Sun Microsystems, Inc., in the US and other countries.

Apress, Inc. is not affiliated with Sun Microsystems, Inc., and this book was written without endorsement from Sun Microsystems, Inc.

Lead Editor: Steve Anglin
Editorial Board: Steve Anglin, Ewan Buckingham, Gary Cornell, Jason Gilmore, Jonathan Gennick, Jonathan Hassell, James Huddleston, Chris Mills, Matthew Moodie, Dominic Shakeshaft, Jim Sumser, Keir Thomas, Matt Wade
Production Director and Project Manager: Grace Wong
Copy Edit Manager and Copy Editor: Nicole LeClerc
Assistant Production Director and Production Editor: Kari Brooks-Copony
Compositor: Ellie Fountain
Proofreader: Elizabeth Berry
Indexer: Ed Rush
Cover Designer: Kurt Krames
Manufacturing Director: Tom Debolski

Distributed to the book trade worldwide by Springer-Verlag New York, Inc., 233 Spring Street, 6th Floor, New York, NY 10013. Phone 1-800-SPRINGER, fax 201-348-4505, e-mail `orders-ny@springer-sbm.com`, or visit `http://www.springeronline.com`.

For information on translations, please contact Apress directly at 2560 Ninth Street, Suite 219, Berkeley, CA 94710. Phone 510-549-5930, fax 510-549-5939, e-mail `info@apress.com`, or visit `http://www.apress.com`.

The information in this book is distributed on an “as is” basis, without warranty. Although every precaution has been taken in the preparation of this work, neither the author(s) nor Apress shall have any liability to any person or entity with respect to any loss or damage caused or alleged to be caused directly or indirectly by the information contained in this work.

The source code for this book is available to readers at `http://www.apress.com` in the Source Code/Download section. You will need to answer questions pertaining to this book in order to successfully download the code.

Contents at a Glance

About the Author xvii
Acknowledgments xix
Introduction xxi

CHAPTER 1 Overview of Jini 1
CHAPTER 2 Troubleshooting Jini 21
CHAPTER 3 Ant 27
CHAPTER 4 Discovering a Lookup Service 35
CHAPTER 5 Entry Objects 53
CHAPTER 6 Service Registration 59
CHAPTER 7 Client Search 67
CHAPTER 8 Leasing 73
CHAPTER 9 A Simple Example 87
CHAPTER 10 Jini Extensible Remote Invocation 117
CHAPTER 11 Choices for Service Architecture 127
CHAPTER 12 Discovery Management 161
CHAPTER 13 Join Manager 167
CHAPTER 14 Security 171
CHAPTER 15 More Complex Examples 185
CHAPTER 16 Remote Events 215
CHAPTER 17 ServiceDiscoveryManager 237
CHAPTER 18 Example: Flashing Clocks 249
CHAPTER 19 Configuration 265
CHAPTER 20 Logging 281
CHAPTER 21 ServiceStarter 285
CHAPTER 22 Advanced Security 303

CHAPTER 23 Transactions 353
CHAPTER 24 User Interfaces for Jini Services 373
CHAPTER 25 Activation 389
CHAPTER 26 Introspection 431
CHAPTER 27 Extended Example: Home Audio System 437
CHAPTER 28 Web Services and Jini 465

INDEX 475