



From Technologies to Solutions

Apache Geronimo 2.1: Quick Reference

Develop Java EE 5 applications on Geronimo
quickly and easily

Vamsavardhana Reddy Chillakuru
Manu T. George

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BIRMINGHAM - MUMBAI

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Preface

Apache Geronimo is an open source application server that is suitable for use on everything from development environments to enterprise-level deployments. Geronimo brings together the best-of-breed open source technologies to deliver full Java EE 5 compliance. Distributed under the ASL2.0 license, one of the most liberal open source licenses, Geronimo becomes an application server of choice for enterprises and solution vendors.

This book provides the reader with a comprehensive reference to the Apache Geronimo Application Server from the Apache Server Foundation. The authors have provided a reference for the average Apache Geronimo user that provides the user with the steps required to configure anything and everything in Apache Geronimo. This book covers everything from where to download the server software to how to customize it using custom GBeans. After reading this book, the user will be familiar with most of the features of Apache Geronimo v2.1.

This book provides samples that are relevant to each task being performed. The book provides an in-depth coverage of the Apache Geronimo internals, in order for the user to be able to write custom services on Geronimo. There is also coverage of the Geronimo plugin architecture and how to extend the server functionality through plugins. The authors have made the different configuration items available as self contained chapters that can be referred to independently of the other chapters, so that readers can go straight to whatever part of Geronimo they want to configure.

What this book covers

Chapter 1: Introduction - This chapter introduces the reader to the Apache Geronimo Application Server, lists the features that it provides, and the steps that the user has to follow in order to download, install, and start the server.

Chapter 2: Architecture - This chapter gives a high-level overview of the Geronimo architecture. It introduces the reader to the concepts of GBeans, Geronimo Plugins, and the different subsystems of Geronimo.

Chapter 3: Database connectivity - This chapter talks about Geronimo's database connectivity features. It lists the databases supported, and explains how to create database pools and establish connectivity with all of the supported databases using Geronimo.

Chapter 4: JMS - This chapter details the messaging features that Geronimo provides, and guides the user through using the bundled JMS provider, ActiveMQ, to create and use JMS resources.

Chapter 5: Java EE Application deployment - This chapter details the installation of different types of Java EE applications and modules and application clients. It guides users through writing deployment plans for these different Java EE artifacts. This chapter also covers the transaction support provided by Geronimo.

Chapter 6: Security - This chapter takes the user through configuring security in order to secure the server environment and the applications running in Geronimo.

Chapter 7: CORBA - This chapter covers configuring the EJBs running in Geronimo so that they are available through CORBA, and also covers configuring remote EJB references to invoke remote EJBs through CORBA.

Chapter 8: JNDI - This chapter describes the different JNDI environments in Geronimo, gives the steps necessary to bind custom resources to JNDI by using GBeans, and shows us how the global JNDI environment can be leveraged for user's applications.

Chapter 9: Plugins - This chapter educates the user in creating and deploying Geronimo plugins, creating custom server assemblies, and extending Administration Console through plugins.

Chapter 10: Administration - This chapter walks the user through the common administration tasks, such as managing server components, application management, monitoring, working with keystores, and GShell.

Chapter 11: Eclipse Plugin - This chapter introduces the Geronimo Eclipse Plugin (GEP) and explains how to obtain and install it. It takes the user through the various features of the GEP and shows how to develop a sample application by using the Geronimo Eclipse Plugin.

Chapter 12: Clustering - This chapter covers how to configure horizontal and vertical clustering using Geronimo, demonstrates web application clustering using WADI, and explains how to configure load balancing by using the Apache Web Server and mod_jk plugin.

Chapter 13: Logging - This chapter covers all of the configurations required for setting up logging for both the server and user applications. It covers logging frameworks such as log4j JUL, and so on, and the SLF4j wrapper that comes with Geronimo.

Chapter 14: Geronimo Internals - This chapter introduces the user to the internals of Geronimo and the low-level services such as kernel, server info, configuration manager, and so on. It takes the user through developing and deploying new services through GBeans.

Appendix-A: Deployment plans - This appendix covers elements common to all Geronimo deployment plans.

Appendix-B: Troubleshooting - This appendix covers troubleshooting server startup, application deployment, application startup, and runtime problems.

What you need for this book

The reader must be familiar with Java EE 5 concepts and application development.

Who this book is for

This book is intended for Java EE developers and server administrators who would like to use Geronimo for developing and deploying fully-fledged Java EE 5 applications, and Independent Solution Vendors who want to freely distribute Geronimo with their solutions.