# Oracle WebLogic Server 11g: Administration Essentials

Student Guide - Volume I

D58682GC21 Edition 2.1 December 2011 D75362



#### **Authors**

Shankar Raman Steve Friedberg

# **Technical Contributors** and **Reviewers**

Anand Rudrabatla Angelika Krupp

Bala Kothandaraman David Cabelus

Holger Dindler Rasmussen

Matthew Slingsby Mike Blevins

Mike Lehmann

Nagavalli Pataballa

Serge Moiseev

Shailesh Dwivedi Steve Button

Takyiu Liu

TJ Palazzolo Werner Bauer

William Albert Will Hopkins

# **Graphic Designer**

Satish Bettegowda

#### **Editors**

Amitha Narayan Malavika Jinka

#### **Publishers**

Shaik Mahaboob Basha Veena Narasimhan

#### Copyright © 2011, Oracle and/or its affiliates. All rights reserved.

#### Disclaimer

This document contains proprietary information and is protected by copyright and other intellectual property laws. You may copy and print this document solely for your own use in an Oracle training course. The document may not be modified or altered in any way. Except where your use constitutes "fair use" under copyright law, you may not use, share, download, upload, copy, print, display, perform, reproduce, publish, license, post, transmit, or distribute this document in whole or in part without the express authorization of Oracle.

The information contained in this document is subject to change without notice. If you find any problems in the document, please report them in writing to: Oracle University, 500 Oracle Parkway, Redwood Shores, California 94065 USA. This document is not warranted to be error-free.

# **Restricted Rights Notice**

If this documentation is delivered to the United States Government or anyone using the documentation on behalf of the United States Government, the following notice is applicable:

#### U.S. GOVERNMENT RIGHTS

The U.S. Government's rights to use, modify, reproduce, release, perform, display, or disclose these training materials are restricted by the terms of the applicable Oracle license agreement and/or the applicable U.S. Government contract.

### **Trademark Notice**

Oracle and Java are registered trademarks of Oracle and/or its affiliates. Other names may be trademarks of their respective owners.

# **Contents**

# **Preface**

# 1 Introduction

Objectives 1-2
Course Prerequisites 1-3
Course Objectives 1-4
Course Schedule 1-6
Facilities in Your Location 1-8
Summary 1-9

# 2 Introducing Oracle Fusion Middleware Platform

Objectives 2-2

Oracle Fusion Middleware 2-3

Oracle SOA and Oracle WebCenter Suites 2-5

Oracle Identity and Access Management 2-6

Oracle Business Intelligence 2-7

Oracle Portal, Forms, and Reports 2-8

Web Tier Components 2-9

Oracle Fusion Middleware Management Infrastructure 2-10

Oracle Coherence: In-Memory Data Grid 2-11

Relationship of Fusion Middleware Products to WebLogic Server 2-12

Typical Oracle Fusion Middleware Environment 2-13

Summary 2-14

Practice 2 Overview: Logging In to the Lab Environment 2-15

# 3 Defining Java Enterprise Edition Terminology and Architecture

Objectives 3-2

Distributed Systems 3-3

How Standards Help 3-5

Java EE Standard 3-6

Java EE Architecture 3-8

Java Servlets 3-9

SimplestServlet.java 3-10

JavaServer Pages (JSP) 3-11

realsimple.jsp 3-12

Enterprise JavaBeans (EJBs) 3-13

Java Database Connectivity (JDBC) 3-14

Java Naming and Directory Interface (JNDI) 3-15

JNDI Tree 3-16

JNDI Contexts and Subcontexts 3-17

Java Transaction API (JTA) 3-18

Java Message Service (JMS) 3-19

Java Authentication and Authorization (JAAS) 3-20

Java Management Extension (JMX) 3-21

Java EE Connector Architecture (JCA) 3-22

Client Application 3-23

Web Client 3-24

Proxy Server 3-25

Web Server 3-26

Firewalls 3-27

Application Servers 3-28

Web Application Server Configuration 3-29

Application Server Configuration 3-30

Quiz 3-31

Summary 3-32

Practice 3 Overview: Defining Terminology and Architecture 3-33

## 4 Installing Oracle WebLogic Server 11g

Objectives 4-2

Road Map 4-3

Oracle WebLogic Server Installation 4-4

System Requirements 4-5

GUI Mode Installation 4-6

Choosing or Creating a Home Directory 4-7

Registering for Support 4-8 Choosing an Installation Type and Products 4-9

Choosing the JDK and Product Directory 4-10

Installation and Summary 4-11

QuickStart 4-12

Road Map 4-13

Console and Silent Mode Installations 4-14

Postinstallation: Oracle Home 4-15

Oracle WebLogic Server Directory Structure 4-16

Setting Environment Variables 4-18

Defining Environment Variables 4-19

List of Environment Variables and Their Meanings 4-21