

<b>Chapter 1: The J2EE Platform</b> .....	8
Objectives.....	9
The J2EE Platform.....	10
J2EE Components.....	12
J2EE Clients.....	14
JavaBeans™ Component Architecture .....	18
J2EE Server Communications .....	19
Web Components.....	21
Business Components .....	23
Enterprise Information System Tier.....	24
Deployment Options For J2EE Applications.....	25
Oracle 10g Application Server.....	28
Container Services .....	29
Container Types .....	32
Environment Variables used for J2EE Development/Deployment .....	33
OC4J Setup and Installation.....	34
OC4J Setup and Installation.....	34
Requirements .....	34
Basic Installation.....	34
OC4J Startup and Shutdown.....	35
Starting OC4J.....	35
Shutting Down OC4J .....	36
Creating the Development Directory .....	37
Development Application Directory Structure .....	38
OC4J XML Configuration File Overview .....	40
XML Configuration File Features/Components .....	43
Description.....	43
<b>Chapter 2: Architecting J2EE Applications</b> .....	53
Development Roles and Plan for Proposed Applications.....	57
J2EE Product Provider.....	58
Tool Provider .....	59
Application Component Provider .....	60
Enterprise Bean Developer .....	60
Web Component Developer.....	60
J2EE Application Client Developer.....	61
Application Assembler.....	61
Application Deployer and Administrator.....	61
JNDI Naming.....	63
Lab .....	66
<b>Chapter 3: JDBC an Introduction</b> .....	67
Objectives .....	67
The Java Database Connectivity Model .....	68
JDBC Architecture.....	69
JDBC Programming Steps Involved.....	72

JDBC Programming Steps Involved.....	73
GetConnection .....	74
<b>Objectives</b> .....	74
Setting up the environment .....	75
Connection to the Oracle 10g .....	77
Lab: .....	78
<b>Chapter 4: Exception Handling</b> .....	81
A runtime error from the Database triggers a SQLException. ....	82
SQLWarning.....	84
<b>Chapter 5: Retrieving Values from Result Sets</b> .....	86
Prepare or Create a Query.....	87
Execute a SQL Query .....	90
Example ResultSet.....	91
Updatable ResultSet.....	92
Example Updatable Result Set.....	93
<b>Chapter 6: Transaction Management</b> .....	94
Isolation Level .....	96
PreparedStatement .....	97
Parameterized Statements .....	98
Stored Procedures .....	100
ResultSet from Stored Procedure .....	104
Batch Updates .....	106
Large Objects .....	107
Example .....	108
ResultSet MetaData .....	109
Exercise.....	110
Lab: .....	113
What Is a Servlet.....	118
Servlet Life Cycle .....	121
Initializing a Servlet.....	122
Example Init (Method).....	123
Handling Servlet Life-Cycle Events .....	125
Defining The Listener Class .....	125
<b>Chapter 8: Implement Servlet Methods</b> .....	127
Initializing a Servlet.....	128
Example Init (Method).....	129
Writing Service Methods .....	130
Example VendorController.java .....	131
Getting Information from Requests .....	132
Constructing Responses.....	136
Finalizing a Servlet .....	138
More do Methods.....	139
Logging a Message in a Servlet & Error Handeling.....	141

<b>Chapter 9: Advanced Servlets Techniques .....</b>	<b>144</b>
Request Headers.....	145
Table Response Status Codes .....	150
Response Headers .....	154
Table Response Headers .....	155
To view the Response Headers example .....	157
The Cookie Class .....	159
Cookie Methods .....	160
Example .....	161
Session Tracking (Maintaining State in J2EE Applications).....	163
Looking up Information Associated with a Session (HTTPSession) .....	164
Associating Information with a Session .....	165
HTTPSession, some more methods .....	166
Example ShowSession.java .....	167
<b>Chapter 10: Servlet Deployment Descriptors and Deployment using JDeveloper 10g on Oracle10gAS containers for J2EE. ....</b>	<b>171</b>
Application Assembly (OC4J).....	173
Application Directory Structure.....	173
Deployment using JDeveloper 10g.....	175
Establish OC4J Connection .....	175
Create Database Connection.....	180
Create WAR Deployment Descriptors using JDeveloper 10g.....	184
<b>Chapter 11: Creating the WEB Tier.....</b>	<b>192</b>
What is JSP Technology .....	193
JSP Scripting Elements.....	198
Example Scripting Elements.....	199
JSP Expressions .....	200
JSP Scriptlets .....	202
JSP Declarations .....	204
JSP Directives .....	206
The JSP page Directive .....	209
The JSP include Directive .....	213
Predefined Variables.....	216
Actions .....	218
The jsp:include Action .....	219
The jsp:useBean Action .....	221
More jsp:useBean Details.....	223
The jsp:setProperty Action .....	223
The jsp:getProperty Action .....	228
The jsp:forward Action .....	229
The jsp:plugin Action .....	229
Custom Tag Library.....	230
The Composition of a Tag Library .....	232
The Tag Handler .....	236
The JSP .....	238

Deploy Custom Tags on OC4j.....	239
Create a TLD file .....	239
Access the JSP .....	240
<b>Chapter 12 Creating the WEB Tier .....</b>	<b>241</b>
What is Struts? .....	242
Model-View-Controller (MVC) Architecture and Struts .....	243
Controller in Struts Framework .....	245
Action Class .....	248
ActionForm .....	252
<b>Chapter 13:Creating the Business Tier: Enterprise Java Beans .....</b>	<b>266</b>
What Is EJB Technology .....	267
Benefits of Enterprise Beans.....	269
When to Use Enterprise Beans .....	271
Types of Enterprise Beans .....	272
EJB Programming Restrictions.....	275
<b>Chapter 14: EJB Interfaces.....</b>	<b>278</b>
Local and Remote Interfaces .....	279
Example Local Home Interface .....	281
The Home Interface .....	285
Remote Home Interface Lookup.....	287
Local Home Interface Lookup.....	288
The <code>javax.ejb.EJBHome</code> and <code>javax.ejb.EJBLocalHome</code> interfaces.....	289
The Component Interface .....	292
The <code>javax.ejb.EJBObject</code> and <code>javax.ejb.EJBLocalObject</code> interfaces.....	294
<b>Chapter 15: Session Bean.....</b>	<b>295</b>
What Is a Session Bean?.....	296
State Management Modes.....	297
Stateful Session Beans .....	298
The Life Cycle of a Stateful Session Bean .....	299
Stateless Session Beans.....	301
The Life Cycle of a Stateless Session Bean.....	303
Lab .....	306
The ShoppingCartEJB Example .....	306
Session Bean Class .....	307
The SessionBean Interface.....	310
The <code>ejbCreate</code> Methods.....	312
Business Methods of the Session Bean.....	315
Home Interface.....	318
Remote Interface.....	321
Helper Classes.....	323
The Stateful Sesion Bean Client .....	324
Create a Stateful Session Bean Using JDeveloper 10g.....	325

Create a Client for the Session Bean using JDeveloper 10g.....	332
Deploy using JDeveloper 10g.....	335
<b>Chapter 16: Entity Beans .....</b>	<b>339</b>
What Is an Entity Bean? .....	340
What Makes Entity Beans Different from Session Beans? .....	341
Persistence.....	341
Shared Access .....	343
Primary Key .....	344
Relationships.....	345
The Life Cycle of an Entity Bean .....	346
The Bean Managed Persistence .....	349
Entity Bean Class.....	350
The EntityBean Interface .....	352
The ejbCreate Method.....	353
The ejbPostCreate Method.....	355
The ejbRemove Method.....	356
The ejbLoad and ejbStore Methods.....	357
The Finder Methods.....	360
The Business Methods .....	364
The Home Methods.....	366
Home Interface.....	369
create Method Definitions.....	370
Finder Method Definitions.....	371
Home Method Definitions .....	373
Remote Interface .....	374
Create BMP Entity Beans using JDeveloper 10g .....	376
Developing the SavingsAccountBean Using JDeveloper 10g.....	377
Container-Managed Persistence.....	397
Abstract Schema .....	398
Persistent Fields .....	399
Relationship Fields.....	399
Multiplicity in Container-Managed Relationships.....	401
LAB.....	402
Develop and Deploy a CMP entity Bean using JDeveloper 10g.....	402
Deploy CMP Bean .....	419
Test the CMP Beans.....	423
What Is a Message-Driven Bean.....	427
What Makes Message-Driven Beans Different from Session and Entity Beans? ..	428
When to Use Message-Driven Beans .....	431
The Life Cycle of a Message-Driven Bean.....	432
LAB: .....	433
Develop and Deploy a Message Driven Bean using JDeveloper 10g .....	433
The onMessage Method .....	436
The ejbCreate and ejbRemove Methods .....	437
<b>Chapter 17: Web Services.....</b>	<b>445</b>

WSDL .....	447
UDDI.....	450
SOAP .....	454
Develop and Deploy Web Services .....	459
Create the Web Service Stub .....	463
<b>Chapter 18: Java 2 Security Model</b> .....	<b>472</b>
The Java 2 Security Model .....	473
Principals and Subjects .....	474
Principals.....	474
Subjects.....	475
Authentication and Authorization.....	477
Secure Communications .....	479
Secure Sockets Layer.....	480
Certificates .....	480
Identity Propagation.....	481
Developing Secure J2EE Applications with Oracle 10g AS .....	482
<b>Chapter 19: Java Authentication and Authorization (JAAS) and J2EE Security</b> .....	<b>484</b>
The JAAS Provider .....	485
Provider Types .....	486
What Is JAAS?.....	487
Login Module Authentication.....	488
Roles .....	489
Realms.....	489
Applications .....	489
Policies and Permissions.....	490
JAAS Framework Features .....	491
<i>JAAS Provider Features</i> .....	491
User Managers .....	492
Using JAZNUserManager .....	494
OC4J Security Architecture Under the JAZNUserManager Class .....	495
Using XMLUserManager .....	496
<b>Chapter 20: Configuring And Deploying the JAAS Provider</b> .....	<b>497</b>
J2EE Deployment Descriptors.....	498
<i>J2EE Deployment Descriptors</i> .....	498
OC4J Deployment Descriptors .....	499
OC4J Configuration Files .....	499
JAAS Provider Configuration Files .....	500
Specifying JAAS as the Policy Provider (Optional).....	502
Locating jazn.xml .....	503
The <jazn> Tag.....	504
The <jazn> Tag and the XML-Based Provider .....	505

(XML-Based Provider) The <jazn> Tag In orion-application.xml .....	505
The <jazn> Tag and the LDAP-Based Provider .....	507
The <property> Subelement Of <jazn> .....	507
Specifying Authentication (auth-method).....	509
Specifying auth-method in web.xml .....	510
Specifying auth-method in orion-web.xml .....	511
Specifying auth-method in orion-application.xml .....	512

## Chapter 21: Java Transaction Api and Oracle 10g AS

containers for J2EE .....	513
Java Transaction API (Introduction).....	514
Demarcating Transactions .....	515
Enlisting Resources.....	516
Single-Phase Commit.....	517
Enlisting a Single Resource .....	517
Configure the Data Source.....	518
Retrieve the Data Source Connection .....	519
Perform JNDI Lookup .....	519
Retrieve a Connection.....	521
Retrieving a Connection Using Portable JNDI Lookup .....	522
Demarcating the Transaction .....	523
Session Bean Declared as Container-Managed Transactional.....	523
Container-Managed Transactional Demarcation .....	524
Transaction Attributes.....	524
<container-transaction> in Deployment Descriptor .....	525
Bean-Managed Transactions.....	526
JTA Transactions .....	526
JDBC Transactions .....	526
Two-Phase Commit .....	528
Configuring Two-Phase Commit Engine.....	529
Database Configuration Steps.....	530
OC4J Configuration Steps .....	531
Limitations of Two-Phase Commit Engine .....	535
Configuring Timeouts.....	536