



Contents at a Glance

1	Introduction to Oracle E-Business Suite	1
2	E-Business Suite Architecture	15
3	Application Object Library (AOL)	39
4	Multiple Organizations Feature	75
5	Development of Concurrent Programs	89
6	Forms in Oracle Applications	123
7	Reports Development and Customization in Oracle Apps	157
8	BI Publisher in Oracle Applications	175
9	OA Framework: Concepts, Development, and Extensions	211
10	Custom Look and Feel	289
11	Oracle Workflow	313
12	Oracle XML Gateway	365
13	Moving AOL Objects Between Instances	411
14	Integration Between E-Business Suite and SOA	425
15	SQL Performance Coding Guidelines	443
	Index	467

Contents

ACKNOWLEDGMENTS	xv
INTRODUCTION	xvii
1 Introduction to Oracle E-Business Suite	1
What Is Oracle E-Business Suite?	2
Product Families	2
Professional User Interface	4
Web User Interface	4
Configurations, Personalizations, Extensions, and Customizations	5
Configurations	6
Personalizations	6
Customizations and Extensions	6
Concept of E-Business Suite Environments	7
Concept of Common Entities and Common Data	10
Examples of Common Entities	12
Summary	13
2 E-Business Suite Architecture	15
Architecture Overview	16
E-Business Suite System Architecture	19
Client or Desktop Tier	20
Application Tier	21
Oracle Home Directories and File System in Oracle Applications	29
File System in Oracle Applications	30
File System in R11i	31
File System in R12	32
Environment Files in Oracle Applications	35
Database Tier	35
Summary	37

3	Application Object Library (AOL)	39
	Overview of Security Architecture	40
	Applications in E-Business Suite	42
	An Example: Attaching a Concurrent Program to an Application	42
	Profile Options in Oracle Applications	43
	Example Use Case for Profile Options	44
	Creating Custom Profile Options	46
	Descriptive Flexfields (DFFs)	48
	Descriptive Flexfield FAQs	51
	Key Flexfields (KFFs)	54
	Key Flexfield FAQ	56
	Lookups in Oracle Apps	58
	Security of Lookups	59
	Validating Flexfield Segments Against Lookups	59
	Using Lookups for Custom Development	60
	Value Sets	60
	Value Set of a Validation Type Table	62
	Message Dictionary	65
	The Purpose of Message Dictionary	65
	How a Message Is Created	65
	Displaying a Message from Different Tools	66
	Table Used by Messages Dictionary	67
	Auditing in Oracle Apps: User Audits and Data Change Audits	67
	Audit of End Users' Activity	68
	Audit of Data Changes	69
	Row Who Columns	70
	Common Debugging Framework in Oracle Applications	71
	API to Capture Debug Messages in Custom Code	72
	Autonomous Transaction in Debugging	73
	Debugging an API from SQL*Plus	73
	Summary	74
4	Multiple Organizations Feature	75
	Overview of Multi-Org	76
	Multi-Org in R11i	77
	Setting the Multi-Org Context in SQL*Plus	80
	Multi-Org in Release 12	81
	Technical Details of the MOAC Design	82
	Summary	87
5	Development of Concurrent Programs	89
	What Is a Concurrent Program?	90
	Types of Concurrent Programs	91

How to Define a Concurrent Program	93
Creating a Hello World Concurrent Program	94
Examples of Concurrent Programs	102
Host Program	102
SQL*Loader Concurrent Programs	111
PL/SQL Program	113
Java Concurrent Program	116
Best Practices	120
Summary	122
6 Forms in Oracle Applications	123
Oracle Forms Tool: An Overview	124
Forms	125
Blocks	126
Items	126
Triggers	126
Property Palette	127
Forms Delivered by Oracle E-Business Suite	127
Location of the Form Files on Server	128
Custom Forms in E-Business Suite	129
Preparing the Desktop for Custom Forms Development	130
Steps for Developing Custom Forms in E-Business Suite	131
Extending Forms Using CUSTOM.pll	132
Example of an Extension Using CUSTOM.pll	134
Best Practice for CUSTOM.pll	139
Extending Forms Using Forms Personalization	142
Examples of Forms Personalizations	145
Comparison Between Forms Personalization and CUSTOM.pll	152
Best Practices When Implementing Forms Personalizations	154
Further Readings on Forms Personalizations	155
Summary	155
7 Reports Development and Customization in Oracle Apps	157
Main Components of Oracle Reports	158
Data Model	158
Reports Delivered by Oracle Apps	161
Dynamic ORDER BY Clauses	162
Multi-Org Initialization	163
Reports Customization and Custom Reports Development	163
Reports Customization Example	165
Best Practices for Developing Reports in E-Business Suite	171
Summary	174

8	BI Publisher in Oracle Applications	175
	Comparison Between BI Publisher and Oracle Reports	176
	BI Publisher: Introduction and Example	177
	BI Publisher Example Using an XML File	178
	Integration of BI Publisher with E-Business Suite	183
	Oracle Reports Integration with BI Publisher	184
	Using a Data Template with BI Publisher	188
	Using BI Publisher with OA Framework	194
	Converting Oracle Reports Output to BI Publisher	201
	Bursting in E-Business Suite	206
	Good Practices for Developing BI Publisher	
	Reports in E-Business Suite	209
	Summary	210
9	OA Framework: Concepts, Development, and Extensions	211
	OAF: A Historical Perspective	212
	PL/SQL-Based Web Pages	213
	AK Developer	214
	OA Framework with AK Developer Repository	216
	Current Technology: OA Framework with MDS	216
	Comparison Between Oracle Forms and OA Framework	218
	OA Framework Architecture	220
	MDS: Pages in OA Framework	220
	Controller in OA Framework	222
	Business Components for Java	225
	Where to Write Code	231
	JDeveloper: Development Methodology	231
	JDeveloper and Desktop Configuration	232
	Concepts of OA Framework Personalizations	243
	Admin Personalizations	244
	User-Level Personalizations	248
	OA Framework Extensions	250
	Identifying the Type of Required Extension	252
	View Object Extension	253
	Entity Object Extensions	254
	Application Module Extension	255
	Controller Extension	255
	OAF Extensions: Fully Worked Example	259
	OA Framework Extensions Tips	280
	Summary	288

10	Custom Look and Feel	289
	UIX: CLAF Enabling Technology	290
	UIX Custom Style Sheets	293
	UIX Custom Icons	293
	UIX Custom Renderers	294
	How to Create CLAF in Oracle Applications	297
	Creating Custom Styles and Icons	298
	Best Practices	310
	Summary	311
11	Oracle Workflow	313
	Architecture Overview and Key Components	314
	Oracle Workflow Builder	316
	Understanding Workflow Definition	316
	An Example: Creating a Workflow Process	329
	Workflow Engine	342
	Embedding OA Framework Regions in WF Notifications	345
	Directory Service	350
	Business Events in Oracle Applications	353
	What Is a Business Event?	353
	Business Events System (BES)	354
	An Example: Converting Existing Workflow	355
	Best Practices	358
	Workflow Builder: Design Time	359
	Modifications of Standards Workflow Processes	359
	Performance Considerations	361
	Deployment Considerations	362
	Summary	363
12	Oracle XML Gateway	365
	XML Gateway Architecture Overview	366
	XML Gateway Main Components Explained by Example	368
	Practical Examples	378
	Example of Creating an Inbound Message	378
	Example of Creating an Outbound Message	395
	Message Monitoring and Debugging	406
	Summary	409
13	Moving AOL Objects Between Instances	411
	Brief History: Before FNDLOAD	412
	Basics of FNDLOAD	412
	Advantages of FNDLOAD	413
	FNDLOAD Command	414
	Understanding the Loader Configuration (LCT) File	414

Using FNDLOAD for Non-AOL Objects	421
Using FNDLOAD: Best Practices	422
Summary	423
14 Integration Between E-Business Suite and SOA	425
Integration Through Oracle Adapter for Oracle Applications	426
An Example of Exposing a Business Event to SOA	427
Example Process Overview and Required Software	427
Step-by-Step Walkthrough	428
New SOA Enabling Features in Release 12.1	437
Subscribing an External Web Service to a Business Event	438
Oracle Integration Repository Enhancement in R12.1	440
Summary	441
15 SQL Performance Coding Guidelines	443
General Considerations Before Starting Solution Design	444
Scalability	446
SQL Coding Guidelines	446
SQL Processing Overview	447
Overview of Cost Based Optimizer (CBO)	448
SQL Tuning Tools	454
SQL Coding Guidelines	459
SQL Tuning Tools: Common Signs of Inefficiency	462
Summary	466
Index	467