

Contents

Table of Contents

Introduction 9

- 12 Enterprise Objects Framework Documentation
 - Entity-Relationship Modeling 12

Getting Started 13

- 15 Enterprise Objects and Relational Databases
- 16 Creating the Studios Application
- 17 Creating the Studios Project
- 18 Creating the Model
 - Assigning Primary Keys 21
- 23 Creating the User Interface for the Studios Application
 - Connecting the Studio EODisplayGroup to the Interface 27
 - Formatting Currency and Dates 30
 - Adding Action Methods 32
- 35 Adding Relationships
 - Adding Movies to the Application 36
- 38 Transferring Movies Between Studios
- 41 Putting the Finishing Touches on Your Model
 - Removing Primary and Foreign Keys as Class Properties 42
- 43 Adding Behavior to Your Enterprise Objects
 - Specifying Custom Enterprise Object Classes for Studio and Talent 43
 - Generating Template Source Code 45
 - Implementing Custom Behavior for Your Classes 46
- 57 Running the Studios Application

Designing Enterprise Objects 61

- 64 Designing Your Schema
- 65 Defining the Model
 - EOTGenericRecord or Custom Class? 65
 - Which Attributes Should Be Class Properties? 66
 - What Data Types Should Your Properties Be? 67
 - How Should Your Enterprise Object Manage Relationships with Other Objects? 68
 - What about Inheritance? 71

- 71 Implementing an Enterprise Object
 - Generating Template Source Code 72
 - Writing Accessor Methods 73
 - Writing Derived Methods 76
 - Performing Validation 77
 - Creating and Inserting Objects 78
 - Setting Defaults for New Enterprise Objects 81
 - Writing Business Logic 82
- 83 Inheritance
 - Types of Inheritance 83
 - Horizontal Mapping 86
 - Single Table Mapping 87
 - Data Access Patterns for Inheritance 88
 - Advantages and Disadvantages of Mapping Approaches 88
 - General Guidelines 90
 - Fetching and Inheritance 90
 - Delegation Hooks for Optimizing Inheritance 91
- 91 Gotchas
 - Numeric Values and NULL 91
 - Cautions in Implementing Accessor Methods 92
 - Don't Override isEqual: 92

Using EOModeler 93

- 95 Models
- 96 Launching EOModeler
- 97 Creating a New Model
 - Using the Model Editor in Table Mode 98
 - 100
 - Using the Model Editor in Browser Mode 100
 - What a Default Model Includes 100
 - Using the Data Browser 101
 - Inspecting and Modifying Attributes 103
 - Using Custom Data Types 106
 - Forming a Relationship 107
- 113 Adding Derived and Flattened Attributes
 - Adding a Derived Attribute 117
 - Adding Flattened Relationships 119

- 121 Working With Entities
 - Inspecting an Entity 121
 - Specifying an Enterprise Object Class 124
- 126 Generating Template Source Code Files
 - Customizing Template Generation 128
- 129 Setting Other Information for an Entity
 - Advanced Entity Inspector 129
 - Stored Procedures Inspector 131
 - UserInfo Inspector 132
- 132 Working With Stored Procedures
- 132 Working with Multiple Models and Databases
- 134 Generating Schema
- 134 Setting Adaptor Information
 - Switching Adaptors 135
- 135 Checking for Consistency
- 137 Saving the Model

Creating an Enterprise Objects Framework Project 139

- 141 Creating a Project
- 142 Creating the Interface
 - Loading EOPalette 142
 - EODisplayGroup, Associations, and Class Keys 143
- 144 Creating a New Application
 - Adding EODisplayGroup and EODatabaseDataSource Objects 144
 - Dragging a Model File into the Window 145
 - Inspecting an Entity EODisplayGroup 147
- 149 More on Associations
- 151 Creating a Master-Detail Interface
 - Creating a Master-Peer Interface 153
- 154 Using Formatters
- 157 Using Key Paths
- 159 Using Different “Document” Configurations
 - Using One EOEditingContext for Multiple nibs 159
 - Creating a “Drill Down” User Interface 159

Answers to Common Design Questions 161

- 163 How Can I Improve Performance?
 - Controlling the Number of Objects Fetched 163
 - Faulting 164
 - Creating an EOModel for Optimal Performance 165
 - Updating the User Interface Display 166
- 167 How Do I Generate Primary Keys?
 - Defining a Primary Key 167
 - Generating Primary Key Values 168
 - Why Can't I Use Identity Columns? 172
 - Summary 173
- 173 How Do I Use My Database Server's Integrity-Checking Features?
 - Defaults 174
 - Rules That Validate Values 175
 - Constraints for Enforcing Relational Integrity Rules 175
- 176 How Do I Invoke a Stored Procedure?
 - Defining a Stored Procedure 176
 - Invoking a Stored Procedure Automatically 179
 - Invoking a Stored Procedure Explicitly 182
- 184 How Do I Order Database Operations?
- 185 How Are Enterprise Objects Deallocated?
 - Who Owns an Enterprise Object? 185
 - How Does an Enterprise Object Get Deallocated? 185
 - How Are an Object's Snapshots Deallocated? 186
 - What Happens If You Have Retain Cycles? 186
- 187 Should I Make Foreign Key Attributes Class Properties?
- 188 How Do I Share Models Across Applications?

Architectural Overview 191

- 197 Framework Dependencies
- 198 What Is an Enterprise Object?
 - Enterprise Objects and Data Transportation 198
- 200 Enterprise Objects Framework Classes
- 202 User Interface Objects
- 202 The Interface Layer
- 202 The Data Source
- 203 The Control Layer
 - Object Graph Management 204
 - Object Storage Abstraction 205
- 205 The Access Layer
 - The Database Level 206
 - The Adaptor Level 207
- 207 Models

Entity-Relationship Modeling 209

- 211 Modeling Objects
- 212 Entities and Attributes
 - Names and the Data Dictionary 213
 - Attribute Data 214
 - The Primary Key 215
- 216 Relationships
 - Relationship Directionality 217
 - Naming Relationships 217
 - Relationship Keys 218
 - Relationship Cardinality 221
 - Bidirectional Relationships 222
 - Reflexive Relationships 225
 - Flattened Attributes 226