

Eclipse Modeling Framework Second Edition Guquanore

EMF: Eclipse Modeling Framework Dave Steinberg Frank Budinsky Marcelo Paternostro Ed Merks Series Editors: Erich Gamma • Lee Nackman • John Wiegand The Authoritative Guide to EMF Modeling and Code Generation The Eclipse Modeling Framework enables developers to rapidly construct robust applications based on surprisingly simple models. Now, in this thoroughly revised Second Edition, the project's developers offer expert guidance, insight, and examples for solving real-world problems with EMF, accelerating development processes, and improving software quality. This edition contains more than 40% new material, plus updates throughout to make it even more useful and practical. The authors illuminate the key concepts and techniques of EMF modeling, analyze EMF's most important framework classes and generator patterns, guide you through choosing optimal designs, and introduce powerful framework customizations and programming techniques. Coverage includes • Defining models with Java, UML, XML Schema, and Ecore • NEW: Using extended Ecore modeling to fully unify XML with UML and Java • Generating high-quality code to implement models and editors • Understanding and customizing generated code • Complete documentation of @model Javadoc tags, generator model properties, and resource save and load options • NEW: Leveraging the latest EMF features, including extended metadata, feature maps, EStore, cross-reference adapters, copiers, and content types • NEW: Chapters on change recording, validation, and utilizing EMF in stand-alone and Eclipse RCP applications • NEW: Modeling generics with Ecore and generating Java 5 code

About the Authors Dave Steinberg is a software developer in IBM Software Group. He has worked with Eclipse and modeling technologies since joining the company, and has been a committer on the EMF project since its debut in 2002. Frank Budinsky, a senior architect in IBM Software Group, is an original coinventor of EMF and a founding member of the EMF project at Eclipse. He is currently cochair of the Service Data Objects (SDO) specification technical committee at OASIS and lead SDO architect for IBM. Marcelo Paternostro is a software architect and engineer in IBM Software Group. He is an EMF committer and has been an active contributor to several other Eclipse projects. Before joining IBM, Marcelo managed, designed, and implemented numerous projects using Rational's tools and processes. Ed Merks is the project lead of EMF and a colead of the top-level Modeling project at Eclipse. He holds a Ph.D. in Computing Science and has many years of in-depth experience in the design and implementation of languages, frameworks, and application development environments. Ed works as a software consultant in partnership with itemis AG.

Computer-Aided Design of User Interfaces VI gathers the latest experience of experts, research teams and leading organisations involved in computer-aided design of user interactive applications. This area investigates how it is desirable and possible to support, to facilitate and to speed up the development life cycle of any interactive system: requirements engineering, early-stage design, detailed design, development, deployment, evaluation, and maintenance. In particular, it stresses how the design activity could be better understood for different types of advanced interactive ubiquitous computing, and multi-device environments.

• Shows how EMF unifies three important technologies: Java, XML, and UML • Provides a comprehensive overview of the EMF classes including a complete quick reference for all the classes and methods in the EMF 1.1 API • Includes examples of many

common framework customizations and programming techniques

This is the eBook version of the print title, **Framework Design Guidelines, Second Edition**. Access to all the samples, applications, and content on the DVD is available through the product catalog page www.informit.com/title/9780321545619 Navigate to the “Downloads” tab and click on the “DVD Contents” links - see instructions in back pages of your eBook. **Framework Design Guidelines, Second Edition**, teaches developers the best practices for designing reusable libraries for the Microsoft .NET Framework. Expanded and updated for .NET 3.5, this new edition focuses on the design issues that directly affect the programmability of a class library, specifically its publicly accessible APIs. This book can improve the work of any .NET developer producing code that other developers will use. It includes copious annotations to the guidelines by thirty-five prominent architects and practitioners of the .NET Framework, providing a lively discussion of the reasons for the guidelines as well as examples of when to break those guidelines. Microsoft architects Krzysztof Cwalina and Brad Abrams teach framework design from the top down. From their significant combined experience and deep insight, you will learn The general philosophy and fundamental principles of framework design Naming guidelines for the various parts of a framework Guidelines for the design and extending of types and members of types Issues affecting—and guidelines for ensuring—extensibility How (and how not) to design exceptions Guidelines for—and examples of—common framework design patterns Guidelines in this book are presented in four major forms: Do, Consider, Avoid, and Do not. These directives help focus attention on practices that should always be used, those that should generally be used, those that should rarely be used, and those that should never be used. Every guideline includes a discussion of its applicability, and most include a code example to help illuminate the dialogue. **Framework Design Guidelines, Second Edition**, is the only definitive source of best practices for managed code API development, direct from the architects themselves. A companion DVD includes the **Designing .NET Class Libraries** video series, instructional presentations by the authors on design guidelines for developing classes and components that extend the .NET Framework. A sample API specification and other useful resources and tools are also included.

Agile Java Development with Spring, Hibernate and Eclipse

Third International Conference, ICMT 2010, Malaga, Spain, June 28-July 2, 2010. Proceedings

Develop Mobile Apps Using Java and Eclipse

The Art of Unit Testing

EMF

Pyomo – Optimization Modeling in Python

Rational Application Developer V7 Programming Guide

This volume contains the proceedings of the 22nd International Conference on Medical Informatics Europe 2009 (MIE) in Sarajevo, Bosnia and Herzegovina, September 2009. The scientific topics presented in these proceedings range from national and transnational ehealth roadmaps, health information and electronic health record systems, systems interoperability and communication standards, medical terminology and ontology approaches, and social networks to web,

web 2.0, and semantic web solutions for patients, health personnel and researchers.

Cloud Computing: Theory and Practice provides students and IT professionals with an in-depth analysis of the cloud from the ground up. Beginning with a discussion of parallel computing and architectures and distributed systems, the book turns to contemporary cloud infrastructures, how they are being deployed at leading companies such as Amazon, Google and Apple, and how they can be applied in fields such as healthcare, banking and science. The volume also examines how to successfully deploy a cloud application across the enterprise using virtualization, resource management and the right amount of networking support, including content delivery networks and storage area networks. Developers will find a complete introduction to application development provided on a variety of platforms. Learn about recent trends in cloud computing in critical areas such as: resource management, security, energy consumption, ethics, and complex systems Get a detailed hands-on set of practical recipes that help simplify the deployment of a cloud based system for practical use of computing clouds along with an in-depth discussion of several projects Understand the evolution of cloud computing and why the cloud computing paradigm has a better chance to succeed than previous efforts in large-scale distributed computing

This fully updated second edition includes 100+ pages of new material, including new chapters on Verifying Code, Predicting Errors, and Preventing Errors. Cutting-edge tools such as FindBUGS and AGITAR are explained, techniques from integrated environments like Jazz.net are highlighted, and all-new demos with ESC/Java and Spec#, Eclipse and Mozilla are included. This complete and pragmatic overview of debugging is authored by Andreas Zeller, the talented researcher who developed the GNU Data Display Debugger(DDD), a tool that over 250,000 professionals use to visualize the data structures of programs while they are running. Unlike other books on debugging, Zeller's text is product agnostic, appropriate for all programming languages and skill levels. Why Programs Fail explains best practices ranging from systematically tracking error reports, to observing symptoms, reproducing errors, and correcting defects. It covers a wide range of tools and techniques from hands-on observation to fully automated diagnoses, and also explores the author's innovative techniques for isolating minimal input to reproduce an error and for tracking cause and effect through a program. It even includes instructions on how to create automated debugging tools. The new edition of this award-winning productivity-booster is for any developer who has ever been frustrated by elusive bugs. Brand new chapters demonstrate cutting-edge debugging techniques and tools, enabling readers to put the latest time-saving developments to work for them. Learn by doing. New exercises and detailed examples focus on emerging tools, languages and environments, including AGITAR, FindBUGS, Python and Eclipse. The text includes exercises and extensive references for further study, and a companion website with source code for all examples and additional debugging resources.

Essentials of Computational Chemistry provides a balanced introduction to this dynamic subject. Suitable for both experimentalists and theorists, a wide range of samples and applications are included drawn from all key areas. The book carefully leads the reader thorough the necessary equations providing information explanations and reasoning where necessary and firmly placing each equation in context.

Selected Papers from the Thirteenth International Baltic Conference, DB&IS 2018

Medical Informatics in a United and Healthy Europe

Model-Driven Software Engineering in Practice

Eclipse Modeling Framework

Multiagent Systems, second edition

Programming Android

This book provides a complete and comprehensive reference/guide to Pyomo (Python Optimization Modeling Objects) for both beginning and advanced modelers, including students at the undergraduate and graduate levels, academic researchers, and practitioners. The text illustrates the breadth of the modeling and analysis capabilities that are supported by the software and support of complex real-world applications. Pyomo is an open source software package for formulating and solving large-scale optimization and operations research problems. The text begins with a tutorial on simple linear and integer programming models. A detailed reference of Pyomo's modeling components is illustrated with extensive examples, including a discussion of how to load data from data sources like spreadsheets and databases. Chapters describing advanced modeling capabilities for nonlinear and stochastic optimization are also included. The Pyomo software provides familiar modeling features within Python, a powerful dynamic programming language that has a very clear, readable syntax and intuitive object orientation. Pyomo includes Python classes for defining sparse sets, parameters, and variables, which can be used to formulate algebraic expressions that define objectives and constraints. Moreover, Pyomo can be used from a command-line interface and within Python's interactive command environment, which makes it easy to create Pyomo models, apply a variety of optimizers, and examine solutions. The software supports a different modeling approach than commercial AML (Algebraic Modeling Languages) tools, and is designed for flexibility, extensibility, portability, and maintainability but also maintains the central ideas in modern AMLs.

Want to build apps for Android devices? This book is the perfect way to master the fundamentals. Written by experts who have taught this mobile platform to hundreds of developers in large organizations and startups alike, this gentle introduction shows experienced object-oriented programmers how to use Android's basic building blocks to create user interfaces, store data, connect to the network, and more. Throughout the book, you'll build a Twitter-like application, adding new features with each chapter. You'll also create your own toolbox of code patterns to help you program any type of Android application with ease. Become familiar with the Android platform and how it fits into the mobile ecosystem Dive into the Android stack, including its application framework and the APK application package Learn Android's building blocks: Activities, Intents, Services, Content Providers, and Broadcast Receivers Create basic Android user interfaces and organize UI elements in Views and Layouts Build a service that uses a background process to update data in your application

Written by two world class programmers and software designers, this guide explains how to extend Eclipse for software projects and how to use Eclipse to create software tools that improve development time.

A multi-user game, web site, cloud application, or networked database can have thousands of users all interacting at the same time. You need a powerful, industrial-strength tool to handle the really hard problems inherent in parallel, concurrent environments. You need Erlang. In this second edition of the bestselling *Programming Erlang*, you'll learn how to write parallel programs that scale effortlessly

on multicore systems. Using Erlang, you'll be surprised at how easy it becomes to deal with parallel problems, and how much faster and more efficiently your programs run. That's because Erlang uses sets of parallel processes-not a single sequential process, as found in most programming languages. Joe Armstrong, creator of Erlang, introduces this powerful language in small steps, giving you a complete overview of Erlang and how to use it in common scenarios. You'll start with sequential programming, move to parallel programming and handling errors in parallel programs, and learn to work confidently with distributed programming and the standard Erlang/Open Telecom Platform (OTP) frameworks. You need no previous knowledge of functional or parallel programming. The chapters are packed with hands-on, real-world tutorial examples and insider tips and advice, and finish with exercises for both beginning and advanced users. The second edition has been extensively rewritten. New to this edition are seven chapters covering the latest Erlang features: maps, the type system and the Dialyzer, WebSockets, programming idioms, and a new stand-alone execution environment. You'll write programs that dynamically detect and correct errors, and that can be upgraded without stopping the system. There's also coverage of rebar (the de facto Erlang build system), and information on how to share and use Erlang projects on github, illustrated with examples from cowboy and bitcask. Erlang will change your view of the world, and of how you program. What You Need The Erlang/OTP system. Download it from erlang.org.

Hagenberg Research

Eclipse Rich Client Platform

Framework Design Guidelines

The Daily 5

ECOOP - Object-Oriented Programming

Introduction to Software Testing

Databases and Information Systems X

Agile Java™ Development With Spring, Hibernate and Eclipse is a book about robust technologies and effective methods which help bring simplicity back into the world of enterprise Java development. The three key technologies covered in this book, the Spring Framework, Hibernate and Eclipse, help reduce the complexity of enterprise Java development significantly. Furthermore, these technologies enable plain old Java objects (POJOs) to be deployed in light-weight containers versus heavy-handed remote objects that require heavy EJB containers. This book also extensively covers technologies such as Ant, JUnit, JSP tag libraries and touches upon other areas such as such logging, GUI based debugging, monitoring using JMX, job scheduling, emailing, and more. Also, Extreme Programming (XP), Agile Model Driven Development (AMDD) and refactoring are methods that can expedite the software development projects by reducing the amount of up front requirements and design; hence these methods are embedded throughout the book but with just enough details and examples to not sidetrack the focus of this book. In addition, this book contains well separated, subjective material (opinion sidebars), comic illustrations, tips and tricks, all of which provide real-world and practical perspectives on relevant topics. Last but not least, this book demonstrates the complete lifecycle by building and following a sample application, chapter-by-chapter, starting from conceptualization to production using the technology and processes covered in this book. In summary, by using the technologies and methods covered in this book, the reader will be able to effectively develop enterprise-class Java applications, in an agile manner!

EMFEclipse Modeling FrameworkPearson Education

The official Eclipse Series programmer's guide to integrating and extending BIRT, by its creators at Actuate: fully updated for BIRT 2.6 • Shows how to develop custom reports in Java using BIRT's APIs. • Fully explains all org.eclipse.birt package classes. • The complete programmer and reporting professional's companion to THE BIRT Field Guide: the definitive technical resource for a worldwide community of users that has downloaded 10 million copies of BIRT. The second of a two-book series on business intelligence and reporting technology, Integrating and Extending BIRT, Third Edition thoroughly introduces BIRT 2.6's architecture, reporting framework, and most powerful improvements. The authors - all members of BIRT's extended development team at Actuate - demonstrate how to create powerful customized reports using scripting and the latest BIRT APIs. Then, using many downloadable code examples, they also demonstrate how to extend the BIRT Framework with new plug-ins built using the Eclipse Plug-in Development Environment. Writing for programmers and experienced report developers, they cover all facets of BIRT integration and extensibility, including: • Deploying BIRT reports to an application server. • Understanding BIRT architecture. • Utilizing scripting in BIRT report designs. • Making the most of the org.eclipse.birt package classes. • Integrating BIRT functionality into applications. • Working with the BIRT Extension Framework

Bruno Buchberger This book is a synopsis of basic and applied research done at the various research institutions of the Softwarepark Hagenberg in Austria. Starting with 15 coworkers in my Research Institute for Symbolic Computation (RISC), I initiated the Softwarepark Hagenberg in 1987 on request of the Upper Austrian Government with the objective of creating a scientific, technological, and economic impulse for the region and the international community. In the meantime, in a joint effort, the Softwarepark Hagenberg has grown to the current (2009) size of over 1000 R&D employees and 1300 students in six research institutions, 40 companies and 20 academic study programs on the bachelor, master's and PhD level. The goal of the Softwarepark Hagenberg is innovation of economy in one of the most important current technologies: software. It is the message of this book that this can only be achieved and guaranteed long term by "watering the root", namely emphasis on research, both basic and applied. In this book, we summarize what has been achieved in terms of research in the various research institutions in the Softwarepark Hagenberg and what research vision we have for the imminent future. When I founded the Softwarepark Hagenberg, in addition to the "watering the root" principle, I had the vision that such a technology park can only prosper if we realize the "magic triangle", i.e. the close interaction of research, academic education, and business applications at one site, see Figure 1.

Cloud Computing

Second Edition

Android How to Program

with examples in C#

Databases and Information Systems VIII

Computer-Aided Design of User Interfaces VI

Programming Erlang

The new edition of an introduction to multiagent systems that captures the state of the art in both theory and practice, suitable as textbook or reference. Multiagent systems are made up of multiple interacting intelligent agents—computational entities to some degree autonomous and able to cooperate, compete, communicate, act flexibly, and exercise control over their behavior within the frame of their objectives. They are the enabling technology for a wide range of advanced applications.

relying on distributed and parallel processing of data, information, and knowledge relevant in domains ranging from industrial manufacturing to e-commerce to health care. This book offers a state-of-the-art introduction to multiagent covering the field in both breadth and depth, and treating both theory and practice. It is suitable for classroom use, independent study. This second edition has been completely revised, capturing the tremendous developments in multiagent systems since the first edition appeared in 1999. Sixteen of the book's seventeen chapters were written for this edition. The chapters are by leaders in the field, with each author contributing to the broad base of knowledge and experience on which the book rests. The book covers basic concepts of computational agency from the perspective of both individual agents and agent organizations; communication among agents; coordination among agents; distributed cognition; development and engineering of multiagent systems; and background knowledge in logics and game theory. Each chapter includes references, many illustrations and examples, and exercises of varying degrees of difficulty. The chapters and the overall book are designed to be self-contained and understandable without additional material. Supplemental resources are available on the book's Web site. Contributors Rafael Bordini, Felix Brandt, Amit Chopra, Vincent Conitzer, Virginia Dignum, Jürgen Dix, Ed Durfee, Edith Elkind, Ulle Endriss, Alessandro Farinelli, Shaheen Fatima, Michael Fisher, Nicholas R. Jennings, Kevin Leyton-Brown, Evangelos Markakis, Lin Padgham, Julian Padget, Iyad Rahwan, Talal Rahwan, Alex Rogers, Jordi Sabater, Mir, Yoav Shoham, Munindar P. Singh, Kagan Tumer, Karl Tuyls, Wiebe van der Hoek, Laurent Vercoouter, Meritxell Vinyals, Michael Winikoff, Michael Wooldridge, Shlomo Zilberstein

Learn how to implement a DSL with Xtext and Xtend using easy-to-understand examples and best practices About This Book Leverage the latest features of Xtext and Xtend to develop a domain-specific language. Integrate Xtext with popular third-party IDEs and get the best out of both worlds. Discover how to test a DSL implementation and how to customize IDE and IDE aspects of the DSL Who This Book Is For This book is targeted at programmers and developers who want to create a domain-specific language with Xtext. They should have a basic familiarity with Eclipse and its functionality. Previous experience with compiler implementation can be helpful but is not necessary since this book will explain all the development stages of a DSL. What You Will Learn Write Xtext grammar for a DSL; Use Xtend as an alternative to Java to write cleaner, easier-to-read, and more maintainable code; Build your Xtext DSLs easily with Maven/Tycho and Gradle; Write a code generator and an interpreter for a DSL; Explore the Xtext scoping mechanism for symbol resolution; Test most aspects of a DSL implementation with JUnit; Understand best practices in DSL implementations with Xtext and Xtend; Develop your Xtext DSLs using Continuous Integration mechanisms; Use an Xtext editor in a web application In Detail Xtext is an Eclipse source framework for implementing domain-specific languages together with IDE functionalities. It lets you implement languages really quickly; most of all, it covers all aspects of a complete language infrastructure, including

parser, code generator, interpreter, and more. This book will enable you to implement Domain Specific Languages (DSLs) efficiently, together with their IDE tooling, with Xtext and Xtend. Opening with brief coverage of Xtext features involved in DSL implementation, including integration in an IDE, the book will then introduce you to Xtend as this language will be used in all the examples throughout the book. You will then explore the typical programming development workflow with Xtext when we modify the grammar of the DSL. Further, the Xtend programming language (a fully-featured Java-like language tightly integrated with Java) will be introduced. We then explain the main concepts of Xtext, such as validation, code generation, and customizations of runtime and UI aspects. You will have learned how to test a DSL implemented in Xtext with JUnit and will progress to advanced concepts such as type checking and scoping. You will then integrate the DSL with Continuous Integration systems built in to Xtext DSLs and familiarize yourself with Xbase. By the end of the book, you will be able to manually maintain the EMF model for an Xtext DSL and will see how an Xtext DSL can also be used in IntelliJ. Style and approach A step-by step-tutorial with illustrative examples that will let you master using Xtext and implementing DSLs and its custom language, Xtend.

The Definitive Guide to Eclipse Rich Client Development In Eclipse Rich Client Platform, Second Edition, three Eclipse Rich Client Platform (RCP) project leaders show how to use Eclipse 3.5 ("Galileo") to rapidly deliver cross-platform applications with rich, native-feel GUIs. The authors fully reveal the power of Eclipse as a desktop application development platform and introduce important new improvements in Eclipse 3.5; and walk through developing a full-featured, branded RCP application for Windows, Linux, Mac, and other platforms—including handheld devices and kiosks. Drawing on their extensive experience, the authors cover building, refining, and refactoring prototypes; customizing user interfaces; adding help and software management features; and building, branding, testing, and shipping finished software. They demonstrate current best practices for developing modular and dynamically extensible systems, using third-party code libraries, packaging applications for diverse environments, and much more. For Java programmers at all levels of experience, this book introduces important new RCP features such as p2, Commands, and Databinding Thoroughly covers key RCP-related technologies such as Equinox, SWT, JFace, and OSGi Shows how to effectively brand and customize RCP applications and-feel Walks through user interface testing for RCP applications with SWTBot Illuminates key similarities and differences between RCP and conventional plug-in development Hands-on, pragmatic, and comprehensive, this book offers all the world, nontrivial code examples working developers need—as well as "deep dives" into key technical areas that are essential to your success.

Presents instructions for creating Android applications for mobile devices using Java.

A Developer's Guide

Theory and Practice of Model Transformations
Customizing and Extending IBM Content Navigator
Databases and Information Systems
Eclipse Modeling Project
Software for a Concurrent World

Selected Papers from the Eleventh International Baltic Conference, DB&IS 2014

This book gives a detailed introduction into the Eclipse platform and covers all relevant aspects of Eclipse RCP development. Every topic in this book has a content section in which the topic is explained and afterwards you have several exercises to practice your learning. You will be guided through all relevant aspects of Eclipse 4 development using an comprehensive example which you continue to extend in the exercises. You will learn about the new programming concepts of Eclipse 4, e.g. the application model, dependency injection, CSS styling, the renderer framework, the event system and much more. Proven Eclipse technologies like SWT, JFace viewers, OSGi modularity and services, data binding, etc. are also covered in detail. This book requires a working knowledge of Java and assumes that you are familiar in using the Eclipse IDE for standard Java development. It assumes no previous experience of Eclipse plug-in and Eclipse RCP development.

This book constitutes the refereed proceedings of the 21st European Conference on Object-Oriented Programming, ECOOP 2007, held in Berlin, Germany in July/August 2007. The 25 revised full papers, presented together with 3 invited talks were carefully reviewed and selected from a total of 135 final submissions. The papers are organized in topical sections on types, runtime implementation, empirical studies, programs and predicates, language design, inheritance and derivation, aspects, as well as language about language.

This book discusses how model-based approaches can improve the daily practice of software professionals. This is known as Model-Driven Software Engineering (MDSE) or, simply, Model-Driven Engineering (MDE). MDSE practices have proved to increase efficiency and effectiveness in software development, as demonstrated by various quantitative and qualitative studies. MDSE adoption in the software industry is foreseen to grow exponentially in the near future, e.g., due to the convergence of software development and business analysis. The aim of this book is to provide you with an agile and flexible tool to introduce you to the MDSE world, thus allowing

you to quickly understand its basic principles and techniques and to choose the right set of MDSE instruments for your needs so that you can start to benefit from MDSE right away. The book is organized into two main parts. The first part discusses the foundations of MDSE in terms of basic concepts (i.e., models and transformations), driving principles, application scenarios, and current standards, like the well-known MDA initiative proposed by OMG (Object Management Group) as well as the practices on how to integrate MDSE in existing development processes. The second part deals with the technical aspects of MDSE, spanning from the basics on when and how to build a domain-specific modeling language, to the description of Model-to-Text and Model-to-Model transformations, and the tools that support the management of MDSE projects. The second edition of the book features: a set of completely new topics, including: full example of the creation of a new modeling language (IFML), discussion of modeling issues and approaches in specific domains, like business process modeling, user interaction modeling, and enterprise architecture complete revision of examples, figures, and text, for improving readability, understandability, and coherence better formulation of definitions, dependencies between concepts and ideas addition of a complete index of book content In addition to the contents of the book, more resources are provided on the book's website <http://www.mdse-book.com>, including the examples presented in the book.

Databases and information systems are the backbone of modern information technology and are crucial to the IT systems which support all aspects of our everyday life; from government, education and healthcare, to business processes and the storage of our personal photos and archives. This book presents 22 of the best revised papers accepted following stringent peer review for the 11th International Baltic Conference on Databases and Information Systems (Baltic DB&IS 2014), held in Tallinn, Estonia, in June 2014. The conference provided a forum for the exchange of scientific achievements between the research communities of the Baltic countries and the rest of the world in the area of databases and information systems, bringing together researchers, practitioners and Ph.D. students from many countries. The subject areas covered at the conference focused on big data processing, data warehouses, data integration and services, data and knowledge management, e-government, as well as e-services and e-learning.

Practical Domain-Driven Design in Enterprise Java

13th International Baltic Conference, DB&IS 2018, Trakai, Lithuania, July 1-4, 2018, Proceedings

21th European Conference, Berlin, Germany, July 30 - August 3, 2007, Proceedings

Technology, Engineering, Management

Fostering Literacy Independence in the Elementary Grades

Theory and Practice

A Domain-Specific Language (DSL) Toolkit

Summary **The Art of Unit Testing, Second Edition** guides you step by step from writing your first simple tests to developing robust test sets that are maintainable, readable, and trustworthy. You'll master the foundational ideas and quickly move to high-value subjects like mocks, stubs, and isolation, including frameworks such as Moq, FakeItEasy, and Typemock Isolator. You'll explore test patterns and organization, working with legacy code, and even "untestable" code. Along the way, you'll learn about integration testing and techniques and tools for testing databases and other technologies. **About this Book** You know you should be unit testing, so why aren't you doing it? If you're new to unit testing, if you find unit testing tedious, or if you're just not getting enough payoff for the effort you put into it, keep reading. **The Art of Unit Testing, Second Edition** guides you step by step from writing your first simple unit tests to building complete test sets that are maintainable, readable, and trustworthy. You'll move quickly to more complicated subjects like mocks and stubs, while learning to use isolation (mocking) frameworks like Moq, FakeItEasy, and Typemock Isolator. You'll explore test patterns and organization, refactor code applications, and learn how to test "untestable" code. Along the way, you'll learn about integration testing and techniques for testing with databases. The examples in the book use C#, but will benefit anyone using a statically typed language such as Java or C++. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. **What's Inside** Create readable, maintainable, trustworthy tests Fakes, stubs, mock objects, and isolation (mocking) frameworks Simple dependency injection techniques Refactoring legacy code **About the Author** Roy Osherove has been coding for over 15 years, and he consults and trains teams worldwide on the gentle art of unit testing and test-driven development. His blog is at ArtOfUnitTesting.com. **Table of Contents** **PART 1 GETTING STARTED** The basics of unit testing A first unit test **PART 2 CORE TECHNIQUES** Using stubs to break dependencies Interaction testing using mock objects Isolation (mocking) frameworks Digging deeper into isolation frameworks **PART 3 THE TEST CODE** Test hierarchies and organization The pillars of good unit tests **PART 4 DESIGN AND PROCESS** Integrating unit testing into the organization Working with legacy code Design and testability

Automatic layout is an important tool for the efficient use of graphical models in a model-driven engineering (MDE) context. Since the 1980s, research on graph layout methods has led to a multitude of different approaches, and several free software libraries for graph layout are available. However, today's practically relevant MDE tools hardly reflect this diversity. This thesis aims to support the use of automatic graph layout in such tools. A special focus is on the requirements of data flow models, where constraints on the positioning of ports and the routing of hyperedges pose additional challenges. These constraints are approached with extensions of the layer-based graph layout method. Furthermore, we discuss an infrastructure for managing collections of layout algorithms, allowing to flexibly specify layout configurations. These concepts are implemented in an open-source project based on Eclipse, an extensible platform that is well-known as a Java IDE and also hosts a large number of MDE tools. The presented contributions allow to integrate high-quality automatic layout into these tools with low effort.

This is the eBook of the printed book and may not include any media, website access codes, or print supplements that may come packaged with the bound book. Android How to Program, Second Edition provides a clear and entertaining App-driven introduction to Android 4.3 and 4.4 development for both introductory- and intermediate-level programming courses. It also serves as a great reference and tutorial to learn Android programming. The Deitels' App-driven Approach is simply the best way to master Android programming! The Deitels teach Android programming through seven complete, working Android Apps in the print book and more online. Each chapter presents new concepts through a single App. The authors first provide an introduction to the app, an app test-drive showing one or more sample executions , and a technologies overview . Next, the authors proceed with a detailed code walkthrough of the app's source code in which they discuss the programming concepts and demonstrate the functionality of the Android APIs used in the app. The book also has an extensive introduction to programming using the Java language, making this book appropriate for Java courses that want to add an App-programming flavor. Teaching and Learning Experience This program will provide a better teaching and learning experience—for you and your students. Add an App Component to your Java Course: The appendices provide a condensed, friendly introduction to Java and the object-oriented programming techniques students will need to develop Android apps. Motivate Students with an App-driven Approach to Android 4.3 and 4.4 Development: Concepts are presented in the context of 7 complete working Android Apps, using the latest mobile computing technologies. Enhance Learning with Outstanding Pedagogical Features: The Deitels present hundreds of Android short-answer questions and app-development exercises complete with syntax coloring, code walkthroughs and sample outputs. Model-Driven Software Development (MDS) is currently a highlyregarded development paradigm among developers and researchers.With the advent of OMG's MDA and Microsoft's Software Factories,the MDS approach has moved to the centre of the programmer'sattention, becoming the focus of conferences such as OOPSLA, JAOOand OOP. MDS is about using domain-specific languages to create models thatexpress application structure or behaviour in an efficient anddomain-specific way. These models are subsequently transformed intoexecutable code by a sequence of model transformations. This practical guide for software architects and developers ispeppered with practical examples and extensive case studies.International experts deliver: * A comprehensive overview of MDS and how it relates to industrystandards such as MDA and Software Factories. * Technical details on meta modeling, DSL construction,model-to-model and model-to-code transformations, and softwarearchitecture. * Invaluable insight into the software development process, plusengineering issues such as versioning, testing and product lineengineering. * Essential management knowledge covering economic andorganizational topics, from a global perspective. Get started and benefit from some practical support along the way!

Build and Run Scalable Web Apps on Google's Infrastructure

Learning Android

Principles, Patterns, and Plug-ins

Conventions, Idioms, and Patterns for Reusable .NET Libraries

Essentials of Computational Chemistry

Graph Layout Support for Model-Driven Engineering

Programming Google App Engine

IBM® Rational® Application Developer for WebSphere® Software V7.0 (for short, Rational Application Developer) is the full function Eclipse 3.2 based development platform for developing Java™ 2 Platform Standard Edition (J2SE™) and Java 2 Platform Enterprise Edition (J2EE™) applications with a focus on applications to be deployed to IBM WebSphere Application Server and IBM WebSphere Portal. Rational Application Developer provides integrated development tools for all development roles, including Web developers, Java developers, business analysts, architects, and enterprise programmers. Rational Application Developer is part of the IBM Rational Software Delivery Platform (SDP), which contains products in four life cycle categories: - Architecture management, which includes integrated development environments (Application Developer is here) - Change and release management - Process and portfolio management - Quality management This IBM Redbooks® publication is a programming guide that highlights the features and tooling included with Rational Application Developer V7.0. Many of the chapters provide working examples that demonstrate how to use the tooling to develop applications, as well as achieve the benefits of visual and rapid application development. This publication is an update of Rational Application Developer V6 Programming Guide, SG24-6449. This book consists of six parts: - Introduction to Rational Application Developer - Develop applications - Test and debug applications - Deploy and profile applications - Team development - Appendixes

As one of today's cloud computing services, Google App Engine does more than provide access to a large system of servers. It also offers you a simple model for building applications that scale automatically to accommodate millions of users. With Programming Google App Engine, you'll get expert practical guidance that will help you make the best use of this powerful platform. Google engineer Dan Sanderson shows you how to design your applications for scalability, including ways to perform common development tasks using App Engine's APIs and scalable services. You'll learn about App Engine's application server architecture, runtime environments, and scalable datastore for distributing data, as well as techniques for optimizing your application. App Engine offers nearly unlimited computing power, and this book provides clear and concise instructions for getting the most from it right from the source. Discover the differences between traditional web development and development with App Engine Learn the details of App Engine's Python and Java runtime environments Understand how App Engine handles web requests and executes application code Learn how to use App Engine's scalable datastore, including queries and indexes, transactions, and data modeling Use task queues to parallelize and distribute work across the infrastructure Deploy and manage applications with ease

IBM® Content Navigator provides a unified user interface for your Enterprise Content Management (ECM) solutions. It also provides a robust development platform so you can build customized user interface and applications to deliver value and an intelligent, business-centric experience. This IBM Redbooks® publication guides you through the Content Navigator platform, its architecture, and the available

programming interfaces. It describes how you can configure and customize the user interface with the administration tools provided, and how you can customize and extend Content Navigator using available development options with sample code. Specifically, the book shows how to set up a development environment, and develop plug-ins that add an action, service, and feature to the user interface. Customization topics include implementing request and response filters, external data services (EDS), creating custom step processors, and using Content Navigator widgets in other applications. This book also covers mobile development, viewer customization, component deployment, and debugging and troubleshooting. This book is intended for IT architects, application designers and developers working with IBM Content Navigator and IBM ECM products. It offers a high-level description of how to extend and customize IBM Content Navigator and also more technical details of how to do implementations with sample code.

A Practical Guide to SysML: The Systems Modeling Language is a comprehensive guide to SysML for systems and software engineers. It provides an advanced and practical resource for modeling systems with SysML. The source describes the modeling language and offers information about employing SysML in transitioning an organization or project to model-based systems engineering. The book also presents various examples to help readers understand the OMG Systems Modeling Professional (OCSMP) Certification Program. The text is organized into four parts. The first part provides an overview of systems engineering. It explains the model-based approach by comparing it with the document-based approach and providing the modeling principles. The overview of SYsML is also discussed. The second part of the book covers a comprehensive description of the language. It discusses the main concepts of model organization, parametrics, blocks, use cases, interactions, requirements, allocations, and profiles. The third part presents examples that illustrate how SysML supports different model-based procedures. The last part discusses how to transition and deploy SysML into an organization or project. It explains the integration of SysML into a systems development environment. Furthermore, it describes the category of data that are exchanged between a SysML tool and other types of tools, and the types of exchange mechanisms that can be used. It also covers the criteria that must be considered when selecting a SysML. Software and systems engineers, programmers, IT practitioners, experts, and non-experts will find this book useful. *The authoritative guide for understanding and applying SysML *Authored by the foremost experts on the language *Language description, examples, and quick reference guide included

Model-Driven Software Development

Why Programs Fail

Contributing to Eclipse

The Systems Modeling Language

A Guide to Systematic Debugging

Model-Driven Software Engineering in Practice, Second Edition

Using Jakarta EE, Eclipse MicroProfile, Spring Boot, and the Axon Framework

"The definitive guide, not just for JUnit, but unit testing in general."---Tyson S. Maxwell, Raytheon --

The importance of databases and information systems to the functioning of 21st century life is indisputable. This book presents papers from the 13th International Baltic Conference on Databases and Information Systems, held in Trakai, Lithuania, from 1- 4 July 2018. Since the first of these events in 1994, the Baltic DB&IS has proved itself to be an excellent forum for researchers, practitioners and PhD students to deliver and share their research in the field of advanced information systems, databases and related areas. For the 2018 conference, 69 submissions were received from 15 countries. Each paper was assigned for review to at least three referees from different countries. Following review, 24 regular papers were accepted for presentation at the conference, and from these presented papers the 14 best-revised papers have been selected for publication in this volume, together with a preface and three invited papers written by leading experts. The selected revised and extended papers present original research results in a number of subject areas: information systems, requirements and ontology engineering; advanced database systems; internet of things; big data analysis; cognitive computing; and applications and case studies. These results will contribute to the further development of this fast-growing field, and will be of interest to all those working with advanced information systems, databases and related areas. Extensively class-tested, this textbook takes an innovative approach to software testing: it defines testing as the process of applying a few well-defined, general-purpose test criteria to a structure or model of the software. It incorporates the latest innovations in testing, including techniques to test modern types of software such as OO, web applications, and embedded software. The book contains numerous examples throughout. An instructor's solution manual, PowerPoint slides, sample syllabi, additional examples and updates, testing tools for students, and example software programs in Java are available on an extensive website.

See how Domain-Driven Design (DDD) combines with Jakarta EE MicroProfile or Spring Boot to offer a complete suite for building enterprise-grade applications. In this book you will see how these all come together in one of the most efficient ways to develop complex software, with a particular focus on the DDD process. Practical Domain-Driven Design in Enterprise Java starts by building out the Cargo Tracker reference application as a monolithic application using the Jakarta EE platform. By doing so, you will map concepts of DDD (bounded contexts, language, and aggregates) to the corresponding available tools (CDI, JAX-RS, and JPA) within the Jakarta EE platform. Once you have completed the monolithic application, you will walk through the complete conversion of the monolith to a microservices-based architecture, again mapping the concepts of DDD and the corresponding available tools within the MicroProfile platform (config, discovery, and fault tolerance). To finish

this section, you will examine the same microservices architecture on the Spring Boot platform. The final set of chapters looks at what the application would be like if you used the CQRS and event sourcing patterns. Here you'll use the Axon framework as the base framework. What You Will Learn Discover the DDD architectural principles and use the DDD design patterns Use the new Eclipse Jakarta EE platform Work with the Spring Boot framework Implement microservices design patterns, including context mapping, logic design, entities, integration, testing, and security Carry out event sourcing Apply CQRS Who This Book Is For Junior developers intending to start working on enterprise Java; senior developers transitioning from monolithic- to microservices-based architectures; and architects transitioning to a DDD philosophy of building applications.

A Practical Guide to SysML

Implementing Domain-Specific Languages with Xtext and Xtend

Theories and Models

JUnit in Action

Proceedings of MIE 2009, the XXII International Congress of the European Federation for Medical Informatics

Integrating and Extending BIRT

Achieve Breakthrough Productivity and Quality with MDD and Eclipse-Based DSLs Domain-specific languages (DSLs) and model-driven development (MDD) offer software engineers powerful new ways to improve productivity, enhance quality, and insulate systems from rapid technological change. Now, there's a pragmatic, start-to-finish guide to creating DSLs and using MDD techniques with the powerful open source Eclipse platform. In Eclipse Modeling Project, Richard C. Gronback illuminates both the principles and techniques software professionals need to master, offering insights that will be invaluable to developers working with any tool or platform. As coleader of the Eclipse Modeling Project, Gronback is singularly well-positioned to demonstrate DSLs and MDD at work in Eclipse. Gronback systematically introduces each of the Eclipse technologies that can be used in DSL and MDD development. Throughout, he introduces key concepts and technologies in the context of a complete worked example and presents new best practices and never-before published techniques. He also covers Eclipse projects discussed in no other book, including Query/View/Transformation (QVT) and the Graphical Modeling Framework (GMF)—a project the author personally leads. Eclipse Modeling Project gives software practitioners all the knowledge they need to explore the remarkable potential of DSLs and

MDD—and includes coverage of Why a model-based approach enables the rapid customization of high-quality solutions within the product line paradigm How the Eclipse Modeling Project's capabilities can be used to efficiently create new DSLs Powerful techniques for developing DSL abstract syntax, graphical notation, and textual syntax How to build Model-to-Model (M2M) and Model-to-Text (M2T) transformations—including a powerful new M2M implementation of the Object Management Group's QVT Operational Mapping Language (OML) Efficiently packaging and deploying DSLs with Eclipse Complete reference sections for the Graphical Editing Framework (GEF), GMF runtime and tooling, QVT OML, Xpand, and more This book constitutes the refereed proceedings of the 13th International Baltic Conference on Databases and Information Systems, DB&IS 2018, held in Trakai, Lithuania, in July 2018. The 24 revised papers presented were carefully reviewed and selected from 69 submissions. The papers are centered around topics like information systems engineering, enterprise information systems, business process management, knowledge representation, ontology engineering, systems security, information systems applications, database systems, machine learning, big data analysis, big data processing, cognitive computing.

Describes the philosophy of the Daily 5 teaching structure and includes a collection of literacy tasks for students to complete daily.

Model transformations are the glue that tie modelling activities together. If you've used modelling in anger then, whether you know it or not, you've used model transformations. They come in all shapes and sizes from moving models between different tools to generating implementations. Model transformations have humble beginnings—at one point, not long ago, it was said by many 'in the know' that the way forward in model transformations was to use XSLT. That this idea now raises a wry smile shows how far the model transformation community has come in a short time. Where once model transformations were hacked together in a variety of unsuitable languages, we now have a number of powerful, dedicated languages and theories at our disposal. Since 2008, the ICMT conference series has played a huge part in advancing the subject, and this third edition was no different. The theories and languages presented at ICMT have allowed principled model transformations to

play an ever greater part in real systems. Of course there is still much more to do: we need our model transformations, languages, and theories to scale further, allow greater expressivity, be more flexible, and aid reusability; and we lack empirically backed studies of model transformations in use. Doubtless you can think of other gaps. Yet, though some real-world challenges lie just beyond our reach, each year sees once-daunting problems conquered. Much of that progress is now driven by ICMT, and this year's edition showed how model transformations are increasingly being used in previously unfamiliar areas.