

Application Architecture Guide Layer Diagrams

This is the eBook version of the print title. Note that the eBook does not provide access to the practice test software that accompanies the print book. Learn, prepare, and practice for MCSA 70-410 exam success with this Cert Guide from Pearson IT Certification, a leader in IT certification. Master MCSA 70-410 exam topics for Windows Server 2012 R2 installation and configuration Assess your knowledge with chapter-ending quizzes Review key concepts with exam preparation tasks MCSA 70-410 Cert Guide: Installing and Configuring Microsoft® Windows Server 2012R2 is a best-of-breed exam study guide. Best-selling authors and expert instructors Don Poulton and David Camardella share preparation hints and test-taking tips, helping you identify areas of weakness and improve both your conceptual knowledge and hands-on skills. Material is presented in a concise manner, focusing on increasing your understanding and retention of exam topics. The book presents you with an organized test preparation routine through the use of proven series elements and techniques. Exam topic lists make referencing easy. Chapter-ending Exam Preparation Tasks help you drill on key concepts you must know thoroughly. Review questions help you assess your knowledge, and a final preparation chapter guides you through tools and resources to help you craft your final study plan. Well-regarded for its level of detail, assessment features, and challenging review questions and exercises, this study guide helps you master the concepts and techniques that will enable you to succeed on the exam the first time. The study guide helps you master all the topics on the MCSA 70-410 exam, including the following: Installing and configuring Windows Server 2012 Configuring Windows Server 2012 R2 local storage Configuring access to files and shares Configuring and monitoring print and document services Configuring remote management of servers Configuring Hyper-V server virtualization Creating and configuring virtual machine storage and virtual networks Configuring IPv4 and IPv6 addressing Configuring Dynamic Host Configuration Protocol (DHCP) Deploying and configuring Dynamic Host Configuration Protocol (DHCP) Deploying and configuring Domain Name System (DNS) Installing Active Directory domain controllers Creating and managing Active Directory user and computer accounts Creating and managing Active Directory Groups and Organizational Units (OUs) Creating and applying Group Policy Objects Configuring security policies, application restrictions, and Windows Firewall Don Poulton (A+, Network+, Security+, MCSA, MCSE) is an independent consultant who has worked with computers since the days of 80-column punch cards. He has consulted extensively with training providers, preparing study materials for Windows technologies. He has written or contributed to several Que titles, including Security+ Lab Manual; MCSA/MCSE 70-299 Exam Cram 2; MCTS 70-620 Exam Prep; and MCSA 70-687 Cert Guide: Configuring Microsoft Windows 8.1. David Camardella, an expert on deploying and administering Microsoft technologies, has served as technical reviewer on several previous Pearson Microsoft certification titles.

Architecture is crucial to the success of any large software system -- but even a superb architecture will fail if it isn't communicated well. Now, there's a language- and notation-independent guide to capturing architecture so it can be used successfully by every analyst, software designer, and developer. The authors review the diverse goals and uses of software architecture documentation, providing documentation strategies for several common scenarios. They identify the basic unit of software architecture documentation: the viewtype, which specifies the type of information to be provided in an architectural view. For each viewtype -- Modules, Component-and-Connectors, and Allocation -- they offer detailed guidance on documenting what really matters. Next, they demonstrate how to package architecture documentation in coherent, usable form: augmenting architectural views with documentation of interfaces and behavior; accounting for architectural variability and dynamic systems; and more. Pro SQL Server Internals explains how different SQL Server components work "under the hood" and how they communicate with each other. This is the practical book with a large number of examples that will show you how various design and implementation decisions affect the behavior and performance of your systems. Pro SQL Server Internals covers a multiple SQL Server versions starting with SQL Server 2005 all the way up to the recently released SQL Server 2014. You'll learn about new SQL Server 2014 features including the new Cardinality Estimator, In-Memory OLTP Engine (codename Hekaton), and Clustered Columnstore Indexes. With Pro SQL Server Internals, you have a solid roadmap for understanding the depth and power of the SQL Server database backend, regardless of the version and edition of SQL Server you use. Pro SQL Server Internals does the following: Explains how to design efficient database schema, indexing, and transaction strategies. Shows how various database objects and technologies are implemented internally and when they should or should not be used. Demonstrates how SQL Server executes queries and works with data and transaction logs.

44 reusable patterns to develop and deploy reliable production-quality microservices-based applications, with worked examples in Java Key Features 44 design patterns for building and deploying microservices applications Drawing on decades of unique experience from author and microservice architecture pioneer Chris Richardson A pragmatic approach to the benefits and the drawbacks of microservices architecture Solve service decomposition, transaction management, and inter-service communication Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About The Book Microservices Patterns teaches you 44 reusable patterns to reliably develop and deploy production-quality microservices-based applications. This invaluable set of design patterns builds on decades of distributed system experience, adding new patterns for composing services into systems that scale and perform under real-world conditions. More than just a patterns catalog, this practical guide with worked examples offers industry-tested advice to help you design, implement, test, and deploy your microservices-based application. What You Will Learn How (and why!) to use microservices architecture Service decomposition strategies Transaction management and querying patterns Effective testing strategies Deployment patterns This Book Is Written For Written for enterprise developers familiar with standard enterprise application architecture. Examples are in Java. About The Author Chris Richardson is a Java Champion, a JavaOne rock star, author of Manning's POJOs in Action, and creator of the original CloudFoundry.com. Table of Contents Escaping monolithic hell Decomposition strategies Interprocess communication in a microservice architecture Managing transactions with sagas Designing business logic in a microservice architecture Developing business logic with event sourcing Implementing queries in a microservice architecture External API patterns Testing microservices: part 1 Testing microservices: part 2 Developing production-ready services Deploying microservices Refactoring to microservices Eliminate unnecessary code by taking advantage of the MVVM pattern in Silverlight and WPF using this book and eBook ? less code, fewer bugs

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Spring Web Flow is an exciting open-source framework for developing Java web applications. The framework improves productivity by addressing three major pain-points facing web application developers: user interface navigation control, state management, and modularity. The Definitive Guide to Spring Web Flow covers Spring Web Flow in detail by explaining its motivation and feature set, as well as providing practical guidance for using the framework to develop web applications successfully in a number of environments.

Although enterprise mobility is in high demand across domains, an absence of experts who have worked on enterprise mobility has resulted in a lack of books on the subject. A Comprehensive Guide to Enterprise Mobility fills this void. It supplies authoritative guidance on all aspects of enterprise mobility-from technical aspects and applications to

Neural networks have shown enormous potential for commercial exploitation over the last few years but it is easy to overestimate their capabilities. A few simple algorithms will learn relationships between cause and effect or organise large volumes of data into orderly and informative patterns but they cannot solve every problem and consequently their application must be

chosen carefully and appropriately. This book outlines how best to make use of neural networks. It enables newcomers to the technology to construct robust and meaningful non-linear models and classifiers and benefits the more experienced practitioner who, through over familiarity, might otherwise be inclined to jump to unwarranted conclusions. The book is an invaluable resource not only for those in industry who are interested in neural computing solutions, but also for final year undergraduates or graduate students who are working on neural computing projects. It provides advice which will help make the best use of the growing number of commercial and public domain neural network software products, freeing the specialist from dependence upon external consultants.

Use Visual Studio® Team Foundation Server 2012 and Agile Methods to Deliver Higher Value Software Faster This is the definitive guide to applying agile development and modern software engineering practices with Visual Studio Team Foundation Server 2012—Microsoft's complementary Application Lifecycle Management (ALM) platform. Written by the Microsoft Visual Studio product owner and a long-time Team Foundation Server implementation specialist, it focuses on solving real development challenges, systematically eliminating waste, improving transparency, and delivering better software more quickly and painlessly. Coverage includes • Accelerating the “flow of value” to customers, with a transparent backlog, PowerPoint Storyboarding, VS 2012 feedback requests, and a “usability lab” right into your customers' hands • Driving quality upstream to uncover hidden architectural patterns, ensure cleaner code, fix multiple recurring “cloned” bugs at once, ensure the definition of done with continuous integration and deployment in a reliable build process • Eliminating “no repro” bugs with VS 2012's six powerful mechanisms for more accurate fault identification and use of virtualized test environments • Using Scrum or other Agile methods with Process Templates effectively across distributed teams in large organization by automating burndowns and dashboards to identify “early warning signals” of emerging problems with quality or maintainability • Staying in the groove by storing the state of your work and environment with shelvesets, to let you handle interruptions smoothly • Leveraging VS 2012's new support for multiple Microsoft and open source unit testing frameworks in your IDE and continuous integration pipeline • Performing exploratory testing to uncover bugs in surprising places and testing immersive Windows 8 apps • Rapidly improving team development and collaboration with the hosted Team Foundation Service Whatever your development role, this book will help you apply modern software development practices using Visual Studio Team Foundation Server 2012 to focus on what really matters: building software that begins delivering exceptional value sooner and keeps delighting customers far into the future.

This invaluable textbook/reference provides a hands-on guide to the application of good software development practices to the construction of distributed simulation systems, with a particular focus on High Level Architecture (HLA). Emphasizing a learning-by-doing approach supported by examples, the text offers practical advice on real-world development issues for all engineers and programmers entering the field. Topics and features: explains how to rapidly develop an HLA federation, offering an implemented sample for each service area of the HLA federate interface specification; describes this implementation using the freely available software tools SimGe and RACoN; provides numerous step-by-step examples, code snippets, and case studies, as well as links to downloadable sample source code; uses the Microsoft .NET platform and the C# programming language in all examples and case studies; includes review questions throughout the book for further study; examines not only federate application development, but also object model construction; discusses the employment of HLA in multi-agent simulations. Providing an accessible introduction and all-in-one resource for HLA-based distributed simulation development, this book is an essential guide for students and practitioners training in distributed simulation and distributed interactive simulation.

A Practical Guide to SysML: The Systems Modeling Language is a comprehensive guide for understanding and applying SysML to model systems. The Object Management Group's OMG SysML is a general-purpose graphical modeling language for representing systems that may include combinations of hardware, software, data, people, facilities, and natural objects. SysML supports the practice of model-based systems engineering (MBSE) used to develop system solutions in response to complex and often technologically challenging problems. The book is organized into four parts. Part I provides an overview of systems engineering, a summary of key MBSE concepts, a chapter on getting started with SysML, and a sample problem highlighting the basic features of SysML. Part II presents a detailed description of the SysML language, while Part III illustrates how SysML can support different model-based methods. Part IV discusses how to transition MBSE with SysML into an organization. This book can serve as an introduction and reference for industry practitioners, and as a text for courses in systems modeling and model-based systems engineering. Because SysML reuses many Unified Modeling Language (UML) concepts, software engineers familiar with UML can use this information as a basis for understanding systems engineering concepts. Authoritative and comprehensive guide to understanding and implementing SysML A quick reference guide, including language descriptions and practical examples Application of model-based methodologies to solve complex system problems Guidance on transitioning to model-based systems engineering using SysML Preparation guide for OMG Certified Systems Modeling Professional (OCSMP)

The #1 guide to using Visual Studio 2010 in team development: insider coverage of this huge release, from the leader of the VSTS team * *Focuses on succeeding with new VS 2010 ALM products in real-world environments, with exclusive 'Lessons Learned at Microsoft'. *Thoroughly covers VS 2010's massive new capabilities for team development. *Contains extensive new coverage of implementing Scrum and related practices. *Covers the entire lifecycle: requirements, architecture, construction, build, test, and more This is the most practical, valuable guide for every member of the software team who intends to run or participate in software projects using Microsoft's Visual Studio 2010. Written by a top Microsoft Visual Studio development team leader and a leading Visual Studio implementation consultant, it focuses on the real challenges development organizations face. The authors identify powerful lessons and best practices learned at Microsoft, and cover the entire development lifecycle, from requirements gathering through testing and beyond. This edition adds extensive coverage of VS 2010's extensive new team features, as well as new coverage of using VS 2010 to actively support teams that practice Scrum. Throughout, the authors focus on showing how to use VS 2010 to reduce waste, increase transparency, and accelerate the flow of value to the end customer. Coverage includes: * *Requirements: vision, user stories, use cases, storyboards, satisfiers/dissatisfiers, and more *Running the project: self-managing teams, metrics, sprints, and dashboards *'Value-up' views of software architecture, construction, and testing. *Build and lab: check-in, team build, continuous integration, build verification tests, reporting, deployment, and lab automation/virtualization. *Troubleshooting the project: overcoming issues ranging from scope creep to build

failures

Discover the essential design and architectural patterns with ASP.NET Core to solve common software design problems. With this book, you'll learn how to use a combination of design patterns and build fault-tolerant and robust full-stack apps and microservices with ASP.NET Core and C#.

You can have the best coders in the world working in your teams, but if your project management isn't up to scratch, your project is almost certain to be delayed, to come in over budget, and in some cases to fail entirely. By taking precise control of your application development process, you can make changes, both large and small, throughout your project's life cycle that will lead to better-quality finished products that are consistently delivered on time and within budget. Application lifecycle management (ALM) is an area of rapidly growing interest within the development community. Because its techniques allow you to deal with the process of developing applications across many areas of responsibility and across many different disciplines, its effects on your project can be wide ranging and pronounced. It is a project management tool that has practical implications for the whole team—from architects to designers, from developers to testers. Pro Application Lifecycle Management with Visual Studio 2012 focuses on the most powerful ALM tool available for the Microsoft .NET Framework: Visual Studio Team Foundation Server. It demonstrates the key concepts and techniques of ALM at first with a guide to the overall methodology, and then delves into architecture and testing--illustrating all of the concepts, tips and tricks using the tools TFS provides. The book serves as a complete guide to the ALM style--with no fluff and many relevant code samples and examples. After reading the book, you will understand how TFS can be used to generate continuous meaningful reporting on your project's health for the decision makers on your team as well as for your project's sponsors.

Whether you are a CEO, CFO, board member, or an IT executive, From Business Strategy to Information Technology Roadmap: A Practical Guide for Executives and Board Members lays out a practical, how-to approach to identifying business strategies and creating value-driven technology roadmaps in your organization. Unlike many other books on the subject, you will not find theories or grandiose ideas here. This book uses numerous examples, illustrations, and case studies to show you how to solve the real-world problems that business executives and technology leaders face on a day-to-day basis. Filled with actionable advice you can use immediately, the authors introduce Agile and the Lean mindset in a manner that the people in your business and technology departments can easily understand. Ideal for executives in both the commercial and nonprofit sectors, it includes two case studies: one about a commercial family business that thrived to become a multi-million-dollar company and the other about a nonprofit association based in New York City that fights against child illiteracy.

This book gathers all the content from the GPU Pro series (Vols 1-7; 2010-2016) into a convenient single source anthology covering mobile GPUs and the architecture of tile-based GPUs. It covers ready-to-use ideas and procedures that can help solve many computer graphics programming challenges. The articles by leading programmers contained in this volume focus on new and interesting ways to solve existing rendering problems.

An update to the bestselling UML classic, this title has been revised to cover the unified process and Rational Software's processes. Larman also shows developers how to make practical use of the most significant recent developments in object-oriented analysis and design.

Get the definitive guide on designing applications on the Microsoft application platform—straight from the Microsoft patterns & practices team. Learn how to choose the most appropriate architecture and the best implementation technologies that the Microsoft application platform offers applications developers. Get critical design recommendations and guidelines organized by application type—from Web, mobile, and rich Internet applications to Office Business Applications. You'll also get links to additional technical resources that can help with your application development.

Describes ways to incorporate domain modeling into software development.

The trendsetting architect Rem Koolhaas has carried it out to perfection, whereas the next generation of international stars refined it even more, giving us the unconventional presentation of designs and ideas in the form of diagrams. This method of presentation is easy to understand when dealing with the client and can be communicated internationally, beyond language and cultural barriers – a product of our globalised world. However, diagrams are now much more than explanations and form their own discipline in creative professions connected to design and construction. What looks simple is in fact a complex matter. This title in the series Construction and Design Manual is in its second edition and assembles 384 pages of diagrams by avant-garde architects and designers who specialise in public space, landscape architecture and urban planning.

Practical Software Architecture Solutions from the Legendary Robert C. Martin (“Uncle Bob”) By applying universal rules of software architecture, you can dramatically improve developer productivity throughout the life of any software system. Now, building upon the success of his best-selling books Clean Code and The Clean Coder, legendary software craftsman Robert C. Martin (“Uncle Bob”) reveals those rules and helps you apply them. Martin’s Clean Architecture doesn’t merely present options. Drawing on over a half-century of experience in software environments of every imaginable type, Martin tells you what choices to make and why they are critical to your success. As you’ve come to expect from Uncle Bob, this book is packed with direct, no-nonsense solutions for the real challenges you’ll face—the ones that will make or break your projects. Learn what software architects need to achieve—and core disciplines and practices for achieving it Master essential software design principles for addressing function, component separation, and data management See how programming paradigms impose discipline by restricting what developers can do Understand what’s critically important and what’s merely a “detail” Implement optimal, high-level structures for web, database, thick-client, console, and embedded applications Define appropriate boundaries and layers, and organize components and services See why designs and architectures go wrong, and how to prevent (or fix) these failures Clean Architecture is essential reading for every current or aspiring software architect, systems analyst, system designer, and software manager—and for every programmer who must execute someone else’s designs. Register your product for convenient access to downloads, updates, and/or corrections as they become available.

ColdBox is an event-driven convention based ColdFusion Development Platform. It provides you with a set of reusable code and tools that you can use to increase your development productivity, and it provides you with a development standard when working in a team environment. ColdBox is comprehensive and modular which helps you address most infrastructure concerns of typical ColdFusion applications. It also goes places that other frameworks don't.

The authoritative and timely guide to ALM from Microsoft insiders and MVPs Focused on the latest release of Visual Studio, this edition shows you how to use the Application Lifecycle Management (ALM) capabilities of Visual Studio 2012 to streamline software design, development, and testing. Divided into six main parts, this timely and authoritative title covers Team Foundation Server, stakeholder engagement, project management, architecture, software development, and testing. Whether serving as a step-by-step guide or a reference for designing software solutions, this book offers a nuts-and-bolts

approach to using Microsoft's flagship development tools to solve real-world challenges throughout the application lifecycle. Coverage includes: INTRODUCTION TO APPLICATION LIFECYCLE MANAGEMENT WITH VISUAL STUDIO INTRODUCTION TO TEAM FOUNDATION SERVER TEAM FOUNDATION VERSION CONTROL TEAM FOUNDATION BUILD COMMON TEAM FOUNDATION SERVER INTRODUCTION TO BUILDING STORYBOARDING CAPTURING STAKEHOLDER FEEDBACK AGILE PLANNING AND TRACKING INTRODUCTION TO SOFTWARE ARCHITECTURE TOP-DOWN DESIGN WITH USE CASE ANALYZING APPLICATIONS USING USING LAYER DIAGRAMS TO MODEL INTRODUCTION TO SOFTWARE DEVELOPMENT UNIT TESTING CODE ANALYSIS, CODE METRICS PROFILING AND PERFORMANCE DEBUGGING WITH INTELLITRACE INTRODUCTION TO SOFTWARE TESTING MANUAL TESTING CODED USER INTERFACE TESTING WEB PERFORMANCE AND LOAD TESTING LAB MANAGEMENT Professional Application Lifecycle Management with Visual Studio 2012 offers a thoroughly revised and updated edition of the leading reference book on ALM.

A comprehensive certification guide that will help you prepare for the exam from day one of your preparation journey Key Features Get well-versed with the nitty-gritty of Windows server 2016 A practical guide towards installing, upgrading, and migrating to Windows Server 2016 Enhance your skills with practice questions and mock tests Book Description MCSA: Windows Server 2016 is one of the most sought-after certifications for IT professionals which include working with Windows Server and performing administrative tasks around it. It targets Exam 70-740, Exam 70-741, Exam 70-742 and Exam 70-743 certifications and the demand for these certifications is increasingly high. This book will start with installation, upgrade and migration to Windows Server 2016, cover imaging and deployment and proceed with High Availability and Clustering. Then we will deep dive into fundamental concepts like Core networking, DNS, DHCP, Storage and proceed to Hyper-V, Network Access and Distributed File System. It will also explain Advanced Networking topics such as Software Defined Networking and High-Performance Networking. Furthermore, it will also cover advanced Identity topics in Windows Server 2016 such as Active Directory installation and configuration, Group Policy, Active Directory Certificate Services, and Active Directory Federation Services and Rights Management. Towards the end of this book, test questions and mock preparation items will help in preparing for the certifications with more ease. By the end of this book, you will be able to complete MCSA: Windows Server 2016 certification with more confidence. What you will learn Prepare for exam 70-741 Networking with Windows Server 2016 Learn to apply the technology to real-world examples Learn core networking, name resolution and connectivity technologies in Windows Server 2016. Get prepared for exam 70-742 Identity with Windows Server 2016 Get ways to clear the exam 70-743 Upgrading Your Skills to MCSA: Windows Server 2016 Practice critical skills and test your knowledge of the objectives of all three MCSA exams Who this book is for This book is targeted towards system administrators or windows server administrators who are interested in clearing the MCSA certification with ease.

Software services are established as a programming concept, but their impact on the overall architecture of enterprise IT and business operations is not well-understood. This has led to problems in deploying SOA, and some disillusionment. The SOA Source Book adds to this a collection of reference material for SOA. It is an invaluable resource for enterprise architects working with SOA. The SOA Source Book will help enterprise architects to use SOA effectively. It explains: What SOA is How to evaluate SOA features in business terms How to model SOA How to use The Open Group Architecture Framework (TOGAF™) for SOA SOA governance This book explains how TOGAF can help to make an Enterprise Architecture. Enterprise Architecture is an approach that can help management to understand this growing complexity.

Unleash the power of the latest Spring MVC 4.x to develop a complete application About This Book Work through carefully crafted exercises with detailed explanations for each step will help you understand the concepts with ease You will gain a clear understanding of the end-to-end request/response life cycle, and each logical component's responsibility This book is packed with tips and tricks that demonstrate industry best practices on developing a Spring-MVC-based application Who This Book Is For The book is for Java developers who want to exploit Spring MVC and its features to build web applications. Some familiarity with basic servlet programming concepts would be a plus, but is not a prerequisite. What You Will Learn Familiarize yourself with the anatomy of the Spring 4.X development environment Understand web application architecture and the Spring MVC request flow Integrate bean validation and custom validation Use error handling and exception resolving Get to grips with REST-based web service development and Ajax Test your web application In Detail Spring MVC helps you build flexible and loosely coupled web applications. The Spring MVC Framework is architected and designed in such a way that every piece of logic and functionality is highly configurable. Also, Spring can integrate effortlessly with other popular web frameworks such as Struts, WebWork, Java Server Faces, and Tapestry. The book progressively teaches you to configure the Spring development environment, architecture, controllers, libraries, and more before moving on to developing a full web application. It begins with an introduction to the Spring development environment and architecture so you're familiar with the know-hows. From here, we move on to controllers, views, validations, Spring Tag libraries, and more. Finally, we integrate it all together to develop a web application. You'll also get to grips with testing applications for reliability. Style and approach This book takes a pragmatic step-by-step approach to web application development using Spring MVC, with informative screenshots and concise explanation.

This book describes how to architect and design Internet of Things (IoT) solutions that provide end-to-end security and privacy at scale. It is unique in its detailed coverage of threat analysis, protocol analysis, secure design principles, intelligent IoT's impact on privacy, and the effect of usability on security. The book also unveils the impact of digital currency and the dark web on the IoT-security economy. It's both informative and entertaining. "Filled with practical and relevant examples based on years of experience ... with lively discussions and storytelling related to IoT security design flaws and architectural issues."— Dr. James F. Ransome, Senior Director of Security Development Lifecycle (SOL) Engineering, Intel "There is an absolute treasure trove of information within this book that will benefit anyone, not just the engineering community. This book has earned a permanent spot on my office bookshelf."— Erv Comer, Fellow of Engineering, Office of Chief Architect Zebra Technologies "The importance of this work goes well beyond the engineer and architect. The IoT Architect's Guide to Attainable Security & Privacy is a crucial resource for every executive who delivers connected products to the market or uses connected products to run their business."— Kurt Lee, VP Sales and Strategic Alliances at PWNIE Express "If we collectively fail to follow the advice described here regarding IoT security and Privacy, we will continue to add to our mounting pile of exploitable computing devices. The attackers are having a field day. Read this book, now."— Brook S.E. Schoenfield, Director of Advisory Services at IOActive, previously Master Security Architect at McAfee, and author of Securing Systems

This book is composed of a selection of articles from The 2021 World Conference on Information Systems and Technologies (WorldCIST'21), held online between 30 and 31 of March and 1 and 2 of April 2021 at Hangra de Heroismo, Terceira Island, Azores, Portugal. WorldCIST is a global forum for researchers and practitioners to present and discuss recent results and innovations, current trends, professional experiences and challenges of modern information systems and technologies research, together with their technological development and applications. The main topics covered are: A) Information and Knowledge Management; B) Organizational Models and Information Systems; C) Software and Systems Modeling; D) Software Systems, Architectures, Applications and Tools; E) Multimedia Systems and Applications; F) Computer Networks, Mobility and Pervasive Systems; G) Intelligent and Decision Support Systems; H) Big Data Analytics and Applications; I) Human-computer Interaction; J) Ethics, Computers & Security; K) Health Informatics; L) Information Technologies in Education; M) Information Technologies in Radiocommunications; N) Technologies for Biomedical Applications.

The practice of enterprise application development has benefited from the emergence of many new enabling technologies. Multi-tiered object-oriented platforms, such as Java and .NET, have become commonplace. These new tools and technologies are capable of building powerful applications, but they are not easily implemented. Common failures in enterprise applications often occur because their developers do not understand the architectural lessons that experienced object developers have learned. Patterns of Enterprise Application Architecture is written in direct response to the stiff challenges that face enterprise application developers. The author, noted object-oriented designer Martin Fowler, noticed that despite changes in technology--from Smalltalk to CORBA to Java to .NET--the same basic design ideas can be adapted and applied to solve common problems. With the help of an expert group of contributors, Martin distills over forty recurring solutions into patterns. The result is an indispensable handbook of solutions that are applicable to any enterprise application platform. This book is actually two books in one. The first section is a short tutorial on developing enterprise applications, which you can read from start to finish to understand the scope of the book's lessons. The next section, the bulk of the book, is a detailed reference to the patterns themselves. Each pattern provides usage and implementation information, as well as detailed code examples in Java or C#. The entire book is also richly illustrated with UML diagrams to further explain the concepts. Armed with this book, you will have the knowledge necessary to make important architectural decisions about building an enterprise application and the proven patterns for use when building them. The topics covered include

- Dividing an enterprise application into layers
- The major approaches to organizing business logic
- An in-depth treatment of mapping between objects and relational databases
- Using Model-View-Controller to organize a Web presentation
- Handling concurrency for data that spans multiple transactions
- Designing distributed object interfaces

Modeling Enterprise Architecture with TOGAF explains everything you need to know to effectively model enterprise architecture with The Open Group Architecture Framework (TOGAF), the leading EA standard. This solution-focused reference presents key techniques and illustrative examples to help you model enterprise architecture. This book describes the TOGAF standard and its structure, from the architecture transformation method to governance, and presents enterprise architecture modeling practices with plenty of examples of TOGAF deliverables in the context of a case study. Although widespread and growing quickly, enterprise architecture is delicate to manage across all its dimensions. Focusing on the architecture transformation method, TOGAF provides a wide framework, which covers the repository, governance, and a set of recognized best practices. The examples featured in this book were realized using the open source Modelio tool, which includes extensions for TOGAF. Includes intuitive summaries of the complex TOGAF standard to let you effectively model enterprise architecture Uses practical examples to illustrate ways to adapt TOGAF to the needs of your enterprise Provides model examples with Modelio, a free modeling tool, letting you exercise TOGAF modeling immediately using a dedicated tool Combines existing modeling standards with TOGAF

If you are a .NET developer who wants to develop end-to-end RESTful applications in the cloud, then this book is for you. A working knowledge of C# will help you get the most out of this book.

Ramp up your software development with this comprehensive resource Microsoft's Application Lifecycle Management (ALM) makes software development easier and now features support for iOS, MacOS, Android, and Java development. If you are an application developer, some of the important factors you undoubtedly consider in selecting development frameworks and tools include agility, seamless collaboration capabilities, flexibility, and ease of use. Microsoft's ALM suite of productivity tools includes new functionality and extensibility that are sure to grab your attention. Professional Application Lifecycle Management with Visual Studio 2013 provides in-depth coverage of these new capabilities. Authors Mickey Gousset, Martin Hinshelwood, Brian A. Randell, Brian Keller, and Martin Woodward are Visual Studio and ALM experts, and their hands-on approach makes adopting new ALM functionality easy. Streamline software design and deployment with Microsoft tools and methodologies Gain a practical overview of ALM with step-by-step guides and reference material Case studies illustrate specific functionality and provide in-depth instruction Use new capabilities to support iOS, MacOS, Android and Java development Discover this comprehensive solution for modeling, designing, and coordinating enterprise software deployments Over 100 pages of new content, forward-compatible with new product releases Professional Application Lifecycle Management with Visual Studio 2013 provides a complete framework for using ALM to streamline software design and deployment processes using well-developed Microsoft tools and methodologies. Professional Application Lifecycle Management with Visual Studio 2013 is your guide to make use of newly-available ALM features to take your enterprise software development to the next level.

Written by industry thought leaders, Java Web Services Architecture is a no-nonsense guide to web services technologies including SOAP, WSDL, UDDI and the JAX APIs. This book is useful for systems architects and provides many of the practical considerations for implementing web services including authorization, encryption, transactions and the future of Web Services. Covers all the standards, the JAX APIs, transactions, security, and more.

Get up to speed on Application Lifecycle Management (ALM) with Visual Studio 2010 through a combination of hands-on instruction and deep-dives. Microsoft has packed a lot of brand new testing and modeling tools into Visual Studio 2010, tools that previously were available only to Microsoft internal development teams. Developers will appreciate the focus on practical implementation techniques and best practices. A team of Microsoft insiders provides a nuts-and-bolts approach. This Wrox guide is designed as both a step-by-step guide and a reference for modeling, designing, and coordinating software development solutions at every level using Visual Studio 2010 and Visual Studio Team Foundation Server 2010. Visual Studio 2010 offers a complete lifecycle management system that covers modeling, testing, code analysis, collaboration, build and deployment tools.

Coverage includes: An Introduction to Software Architecture Top-down Design with Use Case Diagrams, Activity Diagrams, and Sequence Diagrams Top-down Design with Component and Class Diagrams Analyzing Applications Using Architecture Explorer Using Layer Diagrams An Introduction to Software Development Unit Testing with the Unit Test Framework Managed Code Analysis and Code Metrics Profiling and Performance Database Development, Testing, and Deployment An Introduction to IntelliTrace An Introduction to Software Testing Web Performance and Load Testing Manual Testing Coded User Interface Testing Lab Management Introduction to Team Foundation Server Team Foundation Architecture Team Foundation Version Control Branching and Merging Team Foundation Build An Introduction to Project Management Process Templates Using Reports, Portals, and Dashboards Agile Planning Using Planning Workbooks Process Template Customizations Professional Application Lifecycle Management with Visual Studio 2010 shows developers, testers, architects and project managers alike how to leverage the power of Visual Studio 2010 to streamline software design and

development.

Why have a book about the relation between requirements and software architecture? Understanding the relation between requirements and architecture is important because the requirements, be they explicit or implicit, represent the function, whereas the architecture determines the form. While changes to a set of requirements may impact on the realization of the architecture, choices made for an architectural solution may impact on requirements, e.g., in terms of revising functional or non-functional requirements that cannot actually be met. Although research in both requirements engineering and software architecture is quite active, it is in their combination that understanding is most needed and actively sought. Presenting the current state of the art is the purpose of this book. The editors have divided the contributions into four parts: Part 1 "Theoretical Underpinnings and Reviews" addresses the issue of requirements change management in architectural design through traceability and reasoning. Part 2 "Tools and Techniques" presents approaches, tools, and techniques for bridging the gap between software requirements and architecture. Part 3 "Industrial Case Studies" then reports industrial experiences, while part 4 on "Emerging Issues" details advanced topics such as synthesizing architecture from requirements or the role of middleware in architecting for non-functional requirements. The final chapter is a conclusions chapter identifying key contributions and outstanding areas for future research and improvement of practice. The book is targeted at academic and industrial researchers in requirements engineering or software architecture. Graduate students specializing in these areas as well as advanced professionals in software development will also benefit from the results and experiences presented in this volume.

Clean Architecture A Craftsman's Guide to Software Structure and Design Prentice Hall

This comprehensive textbook provides a broad and in-depth overview of embedded systems architecture for engineering students and embedded systems professionals. The book is well-suited for undergraduate embedded systems courses in electronics/electrical engineering and engineering technology (EET) departments in universities and colleges, and for corporate training of employees. The book is a readable and practical guide covering embedded hardware, firmware, and applications. It clarifies all concepts with references to current embedded technology as it exists in the industry today, including many diagrams and applicable computer code. Among the topics covered in detail are: hardware components, including processors, memory, buses, and I/O system software, including device drivers and operating systems use of assembly language and high-level languages such as C and Java interfacing and networking case studies of real-world embedded designs applicable standards grouped by system application The CD-ROM accompanying the text contains source code for the design examples and numerous design tools useful to both students and professionals. A detailed laboratory manual suitable for a lab course in embedded systems design is also provided. Ancillaries also include a solutions manual and technical slides. * without a doubt the most accessible, comprehensive yet comprehensible book on embedded systems ever written! * leading companies and universities have been involved in the development of the content * an instant classic!

New concepts and technologies are being introduced continuously for application development in the World-Wide Web. Selecting the right implementation strategies and tools when building a Web application has become a tedious task, requiring in-depth knowledge and significant experience from both software developers and software managers. The mission of this book is to guide the reader through the opaque jungle of Web technologies. Based on their long industrial and academic experience, Stefan Jablonski and his coauthors provide a framework architecture for Web applications which helps choose the best strategy for a given project. The authors classify common technologies and standards like .NET, CORBA, J2EE, DCOM, WSDL and many more with respect to platform, architectural layer, and application package, and guide the reader through a three-phase development process consisting of preparation, design, and technology selection steps. The whole approach is exemplified using a real-world case: the architectural design of an order-entry management system.

A complete pentesting guide facilitating smooth backtracking for working hackers About This Book Conduct network testing, surveillance, pen testing and forensics on MS Windows using Kali Linux Gain a deep understanding of the flaws in web applications and exploit them in a practical manner Pentest Android apps and perform various attacks in the real world using real case studies Who This Book Is For This course is for anyone who wants to learn about security. Basic knowledge of Android programming would be a plus. What You Will Learn Exploit several common Windows network vulnerabilities Recover lost files, investigate successful hacks, and discover hidden data in innocent-looking files Expose vulnerabilities present in web servers and their applications using server-side attacks Use SQL and cross-site scripting (XSS) attacks Check for XSS flaws using the burp suite proxy Acquaint yourself with the fundamental building blocks of Android Apps in the right way Take a look at how your personal data can be stolen by malicious attackers See how developers make mistakes that allow attackers to steal data from phones In Detail The need for penetration testers has grown well over what the IT industry ever anticipated. Running just a vulnerability scanner is no longer an effective method to determine whether a business is truly secure. This learning path will help you develop the most effective penetration testing skills to protect your Windows, web applications, and Android devices. The first module focuses on the Windows platform, which is one of the most common OSes, and managing its security spawned the discipline of IT security. Kali Linux is the premier platform for testing and maintaining Windows security. Employs the most advanced tools and techniques to reproduce the methods used by sophisticated hackers. In this module first, you'll be introduced to Kali's top ten tools and other useful reporting tools. Then, you will find your way around your target network and determine known vulnerabilities so you can exploit a system remotely. You'll not only learn to penetrate in the machine, but will also learn to work with Windows privilege escalations. The second module will help you get to grips with the tools used in Kali Linux 2.0 that

relate to web application hacking. You will get to know about scripting and input validation flaws, AJAX, and security issues related to AJAX. You will also use an automated technique called fuzzing so you can identify flaws in a web application. Finally, you'll understand the web application vulnerabilities and the ways they can be exploited. In the last module, you'll get started with Android security. Android, being the platform with the largest consumer base, is the obvious primary target for attackers. You'll begin this journey with the absolute basics and will then slowly gear up to the concepts of Android rooting, application security assessments, malware, infecting APK files, and fuzzing. You'll gain the skills necessary to perform Android application vulnerability assessments and to create an Android pentesting lab. This Learning Path is a blend of content from the following Packt products: Kali Linux 2: Windows Penetration Testing by Wolf Halton and Bo Weaver Web Penetration Testing with Kali Linux, Second Edition by Juned Ahmed Ansari Hacking Android by Srinivasa Rao Kotipalli and Mohammed A. Imran Style and approach This course uses easy-to-understand yet professional language for explaining concepts to test your network's security.

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