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## *Product-Focused Software Process Improvement*

Daive Taibi 2022-11-13 This book constitutes the refereed proceedings of the 23rd International Conference on Product-Focused Software Process Improvement, PROFES 2022, which took place in Jyväskylä, Finland in November 2022. The 24 full technical papers, 9 short papers, and 6 poster papers presented in this volume were carefully reviewed and selected from 75 submissions. The book also contains and 8 doctoral symposium papers and 7 tutorial and workshop papers. The contributions were organized in topical sections as follows: Keynote; Cloud and AI; Empirical Studies; Process Management; Refactoring and Technical Dept; Software Business and Digital Innovation; Testing and Bug Prediction; Posters; Tutorials; Workshop on Engineering Processes and Practices for Quantum Software (PPQS'22); 1st Workshop on Computational Intelligence and Software Engineering (CISE 2022); Doctoral Symposium.

## **Software Project Management for Distributed Computing**

Zaigham Mahmood 2017-04-04 This unique volume explores cutting-edge management approaches to developing complex software that is efficient, scalable, sustainable, and suitable for distributed environments. Practical insights are offered by an international selection of pre-eminent authorities, including case studies, best practices, and balanced corporate analyses. Emphasis is placed on the use of the latest

software technologies and frameworks for life-cycle methods, including the design, implementation and testing stages of software development. Topics and features:

- Reviews approaches for reusability, cost and time estimation, and for functional size measurement of distributed software applications
- Discusses the core characteristics of a large-scale defense system, and the design of software project management (SPM) as a service
- Introduces the 3PR framework, research on crowdsourcing software development, and an innovative approach to modeling large-scale multi-agent software systems
- Examines a system architecture for ambient assisted living, and an approach to cloud migration and management assessment
- Describes a software error proneness mechanism, a novel Scrum process for use in the defense domain, and an ontology annotation for SPM in distributed environments
- Investigates the benefits of agile project management for higher education institutions, and SPM that combines software and data engineering

This important text/reference is essential reading for project managers and software engineers involved in developing software for distributed computing environments. Students and researchers interested in SPM technologies and frameworks will also find the work to be an invaluable resource. Prof. Zaigham Mahmood is a Senior Technology Consultant at Debasis Education UK

and an Associate Lecturer (Research) at the University of Derby, UK. He also holds positions as Foreign Professor at NUST and IIU in Islamabad, Pakistan, and Professor Extraordinaire at the North West University Potchefstroom, South Africa.

*Become ITIL® 4 Foundation Certified in 7 Days*

Abhinav Krishna Kaiser 2020-11-26 Use this guide book in its fully updated second edition to study for the ITIL 4 Foundation certification exam. Know the latest ITIL framework and DevOps concepts.

The book will take you through the new ITIL framework and nuances of the DevOps methodology. The book follows the topics included in the foundation certification exam syllabus and includes new sections on ITIL's guiding principles, service value chain, and the four dimensions of service management. Also included are the concepts, processes, and philosophies used in DevOps programs and projects. ITIL and DevOps concepts are explained with relevant examples. By the time you finish this book, you will have a complete understanding of ITIL 4 and will be ready to take the ITIL 4 Foundation certification exam. You will know the DevOps methodology and how ITIL reinforces the philosophy of shared responsibility and collaboration. Over the course of a week, even while working your day job, you will be prepared to take the exam. What You Will Learn Know the basics of ITIL as you prepare for the ITIL Foundation certification exam

Understand ITIL through examples Be aware of ITIL's relevance to DevOps and DevOps concepts Who This Book Is For Professionals from the IT services industry

*.NET DevOps for Azure* Jeffrey Palermo

2019-10-21 Use this book as your one-stop shop for architecting a world-class DevOps environment with Microsoft technologies. .NET DevOps for Azure is a synthesis of practices, tools, and process that, together, can equip a software organization to move fast and deliver the highest quality software. The book begins by discussing the most common challenges faced by developers in DevOps today and offers options and proven solutions on how to implement DevOps for your team. Daily, millions of developers use .NET to build and operate mission-critical software

systems for organizations around the world. While the marketplace has scores of information about the technology, it is completely up to you to put together all the blocks in the right way for your environment. This book provides you with a model to build on. The relevant principles are covered first along with how to implement that part of the environment. And while variances in tools, language, or requirements will change the needed implementation, the DevOps model is the architecture for the working environment for your team. You can modify parts of the model to customize it to your enterprise, but the architecture will enable all of your teams and applications to accelerate in performance. What You Will Learn Get your .NET applications into a DevOps environment in AzureAnalyze and address the part of your DevOps process that causes delays or bottlenecksTrack code using Azure Repos and conduct acceptance testsApply the rules for segmenting applications into Git repositoriesUnderstand the different types of builds and when to use eachKnow how to think about code validation in your DevOps environmentProvision and configure environments; deploy release candidates across the environments in AzureMonitor and support software that has been deployed to a production environment Who This Book Is For .NET Developers who are using or want to use DevOps in Azure but don't know where to begin

**Microsoft Azure Cosmos DB Revealed** José Rolando Guay Paz 2018-01-17 Learn the main features of Azure Cosmos DB and how to use Microsoft's multi-model database service as a data store for mission-critical applications. The clear examples help in writing your own applications to take advantage of Cosmos DB's multi-model, globally distributed, elastic database. Simple step-by-step instructions show how to resolve common and uncommon scenarios involving Azure Cosmos DB, and scenarios such as delivering extremely low response times (in the order of milliseconds), and scaling rapidly and globally. Microsoft Azure Cosmos DB Revealed demonstrates a multitude of possible implementations to get you started. This book guides you toward best practices to get the most out of Microsoft's Cosmos DB service. Later

chapters in the book cover advanced implementation features, helping you master important elements such as securing the database, querying, and using various APIs. What You'll Learn Set up a development environment to work with Azure Cosmos DB Configure Azure Cosmos DB in a production environment with multi-region distribution Query using all APIs, including SQL, JavaScript, MongoDB, and Graph Work with the Azure Cosmos DB.NET SDK in an application you built Access Cosmos DB from web applications created in .NET Who This Book Is For Developers who build applications to be hosted in Microsoft Azure, whether they use PaaS or IaaS. No previous knowledge of Azure Cosmos DB is assumed, but readers must be familiar with developing applications in Microsoft Visual Studio.

**Springer Handbook of Automation** Shimon Y. Nof 2023-06-16 This handbook incorporates new developments in automation. It also presents a widespread and well-structured conglomeration of new emerging application areas, such as medical systems and health, transportation, security and maintenance, service, construction and retail as well as production or logistics. The handbook is not only an ideal resource for automation experts but also for people new to this expanding field.

Hands-on Azure Pipelines Chaminda Chandrasekara 2020-08-08 Build, package, and deploy software projects, developed with any language targeting any platform, using Azure pipelines. The book starts with an overview of CI/CD and the need for software delivery automation. It further delves into the basic concepts of Azure pipelines followed by a hands-on guide to setting up agents on all platforms enabling software development in any language. Moving forward, you will learn to set up a pipeline using the classic Visual Editor using PowerShell scripts, a REST API, building edit history, retention, and much more. You'll work with artifact feeds to store deployment packages and consume them in a build. As part of the discussion you'll see the implementation and usage of YAML (Yet Another Markup Language) build pipelines. You will then create Azure release pipelines in DevOps and develop extensions for Azure pipelines. Finally, you will learn various strategies

and patterns for developing pipelines and go through some sample lessons on building and deploying pipelines. After reading Hands-on Azure Pipelines, you will be able to combine CI and CD to constantly and consistently test and build your code and ship it to any target. What You Will Learn Work with Azure build-and-release pipelines Extend the capabilities and features of Azure pipelines Understand build, package, and deployment strategies, and versioning and patterns with Azure pipelines Create infrastructure and deployment that targets commonly used Azure platform services Build and deploy mobile applications Use quick-start Azure DevOps projects Who This Book Is For Software developers and test automation engineers who are involved in the software delivery process.

**Co-Innovation Platforms** Tammy L. Madsen 2022-01-01 Strategies and practices for growing ecosystems are increasingly important in shaping industries and markets. Sustaining productive innovation is not just about you. It depends on others as well as your willingness and ability to collaborate effectively. This book is about how to use, as well as develop, a co-innovation platform to accelerate innovation and sustain ecosystem growth. It will show how you, your team and your organization can create and foster collaborative innovation among a diverse set of organizations that are located outside of your company's hierarchy. A co-innovation platform provides an environment where firms can combine or recombine ideas to generate novel solutions. A distinctive feature of the co-innovation platform is its resource-open and hands-on approach to innovation. For many organizations, resource limitations, organizational obstacles and/or time constraints kill an idea before it takes shape. By providing access to demand-side and supply-side resources and capabilities to facilitate co-innovation, the platform solves this problem and shapes the ecosystem's innovation trajectory from the ground up. This book provides strategic and practical guidance for orchestrating collaborative problem solving and ecosystem growth.

*Continuous Architecture* Murat Erder 2015-10-21 Continuous Architecture provides a broad architectural perspective for continuous delivery,

and describes a new architectural approach that supports and enables it. As the pace of innovation and software releases increases, IT departments are tasked to deliver value quickly and inexpensively to their business partners. With a focus on getting software into end-users hands faster, the ultimate goal of daily software updates is in sight to allow teams to ensure that they can release every change to the system simply and efficiently. This book presents an architectural approach to support modern application delivery methods and provide a broader architectural perspective, taking architectural concerns into account when deploying agile or continuous delivery approaches. The authors explain how to solve the challenges of implementing continuous delivery at the project and enterprise level, and the impact on IT processes including application testing, software deployment and software architecture. Covering the application of enterprise and software architecture concepts to the Agile and Continuous Delivery models Explains how to create an architecture that can evolve with applications Incorporates techniques including refactoring, architectural analysis, testing, and feedback-driven development Provides insight into incorporating modern software development when structuring teams and organizations

*Practical DataOps* Harvinder Atwal 2019-12-09 Gain a practical introduction to DataOps, a new discipline for delivering data science at scale inspired by practices at companies such as Facebook, Uber, LinkedIn, Twitter, and eBay. Organizations need more than the latest AI algorithms, hottest tools, and best people to turn data into insight-driven action and useful analytical data products. Processes and thinking employed to manage and use data in the 20th century are a bottleneck for working effectively with the variety of data and advanced analytical use cases that organizations have today. This book provides the approach and methods to ensure continuous rapid use of data to create analytical data products and steer decision making. Practical DataOps shows you how to optimize the data supply chain from diverse raw data sources to the final data product, whether the goal is a machine

learning model or other data-orientated output. The book provides an approach to eliminate wasted effort and improve collaboration between data producers, data consumers, and the rest of the organization through the adoption of lean thinking and agile software development principles. This book helps you to improve the speed and accuracy of analytical application development through data management and DevOps practices that securely expand data access, and rapidly increase the number of reproducible data products through automation, testing, and integration. The book also shows how to collect feedback and monitor performance to manage and continuously improve your processes and output. What You Will Learn Develop a data strategy for your organization to help it reach its long-term goals Recognize and eliminate barriers to delivering data to users at scale Work on the right things for the right stakeholders through agile collaboration Create trust in data via rigorous testing and effective data management Build a culture of learning and continuous improvement through monitoring deployments and measuring outcomes Create cross-functional self-organizing teams focused on goals not reporting lines Build robust, trustworthy, data pipelines in support of AI, machine learning, and other analytical data products Who This Book Is For Data science and advanced analytics experts, CIOs, CDOs (chief data officers), chief analytics officers, business analysts, business team leaders, and IT professionals (data engineers, developers, architects, and DBAs) supporting data teams who want to dramatically increase the value their organization derives from data. The book is ideal for data professionals who want to overcome challenges of long delivery time, poor data quality, high maintenance costs, and scaling difficulties in getting data science output and machine learning into customer-facing production.

*Cloud Computing* Naresh Kumar Sehgal 2018-03-23 This book provides readers with an overview of Cloud Computing, starting with historical background on mainframe computers and early networking protocols, leading to current concerns such as hardware and systems security, performance, emerging areas of IoT, Edge

Computing etc. Readers will benefit from the in-depth discussion of cloud computing usage and the underlying architecture, with focus on best practices for using a dynamic cloud infrastructure, cloud operations management and cloud security. The authors explain carefully the “why’s and how’s” of Cloud Computing, so engineers will find this book an invaluable introduction to the topic.

*Advances in Service-Oriented and Cloud*

*Computing* Zoltán Ádám Mann 2018-04-02 This volume contains the technical papers presented in the workshops, which took place at the 6th European Conference on Service-Oriented and Cloud Computing, ESOC 2017, held in Oslo, Norway, September 2017: First International Workshop on Business Process Management in the Cloud, BPM@Cloud 2017; Third International Workshop on Cloud Adoption and Migration, CloudWays 2017. The 9 full papers were carefully reviewed and selected from 12 submissions. In addition, the volume also contains 8 EU Projects papers, describing projects presented at the European Projects Forum, which took place at ESOC 2017. The papers focus on specific topics in service-oriented and cloud computing domains such as limits and/or advantages of existing cloud solutions, future internet technologies, efficient and adaptive deployment and management of service-based applications across multiple clouds, novel cloud service migration practices and solutions, digitization of enterprises in the cloud computing era, federated cloud networking services.

**Pro Microsoft Hyper-V 2019** Andy Syrewicze 2018-10-31 Successfully create and manage your Hyper-V environment without any of the marketing fluff. This book's lab-driven, hands-on approach will get you up and running as quickly and efficiently as possible. Virtualization is the cornerstone of today's data center. As a modern-day IT pro, you are required to manage environments that are in a regular state of flux and increasing in both size and complexity. To keep up, you need practical information in a format that is succinct, yet comprehensive and highly applicable. Pro Hyper-V 2019 breaks down critical and time-saving topics into a series of easy-to-digest chapters, showing you how to

perform Hyper-V management tasks using both GUI and PowerShell-based tools. Building on your existing knowledge of Windows Server management, Active Directory, networking, and storage, experts and Microsoft MVPs Syrewicze and Siddaway begin with a foundation of why computing workloads are virtualized. This is followed by chapters covering the range of management tasks associated with virtualized environments, including: managing hosts and guest machines; networking, storage, and high availability (host and guest); disaster recovery and virtual machine migration; and monitoring. What You'll Learn Apply practical information to administer your Hyper-V environments Understand multiple administration styles (GUI, command line, and automation) Written by IT pros for IT pros - just the information you really need without the padding Administer and use containers Utilize hands-on labs to learn about storage, networking, and high availability Who This Book Is For IT administrators tasked with implementing Hyper-V environments or migrating from VMware. IT pros joining a team that is responsible for managing Hyper-V and “lone administrators” covering the gamut in smaller organizations will also find this book indispensable.

**Systems, Software and Services Process Improvement**

Murat Yilmaz 2020-08-10 This volume constitutes the refereed proceedings of the 27th European Conference on Systems, Software and Services Process Improvement, EuroSPI conference, held in Düsseldorf, Germany, in September 2020\*. The 50 full papers and 13 short papers presented were carefully reviewed and selected from 100 submissions. They are organized in topical sections on visionary papers, SPI manifesto and improvement strategies, SPI and emerging software and systems engineering paradigms, SPI and standards and safety and security norms, SPI and team performance & agile & innovation, SPI and agile, emerging software engineering paradigms, digitalisation of industry, infrastructure and e-mobility, good and bad practices in improvement, functional safety and cybersecurity, experiences with agile and lean, standards and assessment models, recent

innovations, virtual reality. \*The conference was partially held virtually due to the COVID-19 pandemic.

[Building Microservices Applications on Microsoft Azure](#) Harsh Chawla 2019-07-17 Implement microservices starting with their architecture and moving on to their deployment, manageability, security, and monitoring. This book focuses on the key scenarios where microservices architecture is preferred over a monolithic architecture. Building Microservices Applications on Microsoft Azure begins with a survey of microservices architecture compared to monolithic architecture and covers microservices implementation in detail. You'll see the key scenarios where microservices architecture is preferred over a monolithic approach. From there, you will explore the critical components and various deployment options of microservices on platforms such as Microsoft Azure (public cloud) and Azure Stack (hybrid cloud). This includes in-depth coverage of developing, deploying, and monitoring microservices on containers and orchestrating with Azure Service Fabric and Azure Kubernetes Cluster (AKS). This book includes practical experience from large-scale enterprise deployments, therefore it can be a quick reference for solution architects and developers to understand the critical factors while designing a microservices application. What You Will Learn Explore the use cases of microservices and monolithic architecture Discover the architecture patterns to build scalable, agile, and secure microservices applications Develop and deploy microservices using Azure Service Fabric and Azure Kubernetes Service Secure microservices using the gateway pattern See the deployment options for Microservices on Azure Stack Implement database patterns to handle the complexities introduced by microservices Who This Book Is For Architects and consultants who work on Microsoft Azure and manage large-scale deployments.

[Research and Practical Issues of Enterprise Information Systems](#) A Min Tjoa 2016-11-17 This book constitutes the proceedings of the 10th International IFIP WG 8.9 Working Conference on Research and Practical Issues of Enterprise

Information Systems, CONFENIS 2016, held in Vienna, Austria, in December 2016. The conference provided an international forum for the broader IFIP community to discuss the latest research findings in the area of EIS and specifically aimed at facilitating the exchange of ideas and advances on all aspects and developments of EIS. The 25 papers presented in this volume were carefully reviewed and selected from 63 submissions. They were organized in topical sections on: semantic concepts and open data; customer relationship management; security and privacy issues; advanced manufacturing and management aspects; business intelligence and big data; decision support in EIS; and EIS-practices.

[DevSecOps for .NET Core](#) Afzaal Ahmad Zeeshan 2020-05-30 Automate core security tasks by embedding security controls and processes early in the DevOps workflow through DevSecOps. You will not only learn the various stages in the DevOps pipeline through examples of solutions developed and deployed using .NET Core, but also go through open source SDKs and toolkits that will help you to incorporate automation, security, and compliance. The book starts with an outline of modern software engineering principles and gives you an overview of DevOps in .NET Core. It further explains automation in DevOps for product development along with security principles to improve product quality. Next, you will learn how to improve your product quality and avoid code issues such as SQL injection prevention, cross-site scripting, and many more. Moving forward, you will go through the steps necessary to make security, compliance, audit, and UX automated to increase the efficiency of your organization. You'll see demonstrations of the CI phase of DevOps, on-premise and hosted, along with code analysis methods to verify product quality. Finally, you will learn network security in Docker and containers followed by compliance and security standards. After reading DevSecOps for .NET Core, you will be able to understand how automation, security, and compliance works in all the stages of the DevOps pipeline while showcasing real-world examples of solutions developed and deployed using .NET Core 3. What You Will Learn

Implement security for the .NET Core runtime for cross-functional workloads Work with code style and review guidelines to improve the security, performance, and maintenance of components Add to DevOps pipelines to scan code for security vulnerabilities Deploy software on a secure infrastructure, on Docker, Kubernetes, and cloud environments Who This Book Is For Software engineers and developers who develop and maintain a secure code repository.

*Cloud Computing and Services Science* Donald Ferguson 2021-03-22 This book constitutes extended, revised and selected papers from the 10th International Conference on Cloud Computing and Services Science, CLOSER 2020, held in Prague, Czech Republic, in May 2020. Due to the COVID-19 pandemic the conference was held in a virtual format. The 14 papers presented in this volume were carefully reviewed and selected from a total of 69 submissions. CLOSER 2020 focuses on the emerging area of cloud computing, inspired by some latest advances that concern the infrastructure, operations, and available servicesthrough the global network.

**Service-Oriented Computing - ICSOC 2017 Workshops** Lars Braubach 2018-06-15 This book constitutes the revised selected papers of the scientific satellite events that were held in conjunction with the 15th International Conference on Service-Oriented Computing, ICSOC 2017, held in Málaga, Spain, in November 2017. The ICSOC 2017 workshop track consisted of three workshops on a wide range of topics that fall into the general area of service computing: ASOCA 2017: The Second Workshop on Adaptive Service-Oriented and Cloud Applications ISyCC 2016: The Second Workshop on IoT Systems Provisioning and Management in Cloud Computing WESOACS 2017: The 13th International Workshop on Engineering Service-Oriented Applications and Cloud Services

**The Complete ASP.NET Core 3 API Tutorial** Les Jackson 2020-11-02 Use this ASP.NET Core API tutorial and straightforward step-by-step guide to build, test, and deploy an ASP.NET Core API to Azure. It will help you code confidently and efficiently, and provides just what you need for context. The book starts with detailing how to set

up your development environment, and then introduces a variety of tools and technologies to build, test, and deploy your API. It covers tools such as .NET Core SDK, (Version 3.1), Visual Studio Code, Git, xUnit, Docker, PostgreSQL, Postman, Azure DevOps, Azure, AutoMapper, and many more. Practical guidance is provided so you can achieve a tangible and valuable outcome, and you also are given a dose of theory on REST (Representational State Transfer), JSON, (JavaScript Object Notation), DTOs (Data Transfer Objects), and the MVC (Model View Controller) architectural pattern. What You Will Learn Build an ASP.NET Core API using C#, test it, and deploy it to Azure Understand concepts on Entity Framework Core Gain hard-earned secrets, shortcuts, and gotchas throughout the “build along” Get comfortable with ASP NET Core Environments Be introduced to unit testing, CI/CD pipelines, bearer authentication, and JSON Web Tokens (JWT) Who This Book Is For Developers using the Microsoft stack. Some basic understanding of .NET Core is assumed.

**DevOps on the Microsoft Stack** Wouter de Kort 2016-04-30 This book tells you everything you need to know to help your organization implement DevOps on the Microsoft platform. You will learn how to use Visual Studio, Visual Studio Team Services, and Azure to implement a complete DevOps process in your company. You will learn about Agile Project Management, Continuous Integration, Continuous Delivery, Technical Debt Management, Automatic Testing and Monitoring, and see how all these areas fit together. DevOps is important for organizations that want to make the best use of their resources and avoid costly mistakes. Teams that embrace DevOps deploy code up to 30 times more frequently than their competition and less than 50% of their deployments fail according to Puppet Labs State of DevOps survey. DevOps on the Microsoft Stack shows you how to help your organization implement DevOps, covering the tooling they will need and how to make everything work together while following best practices. The focus is not only on technology but also on the cultural issues that teams will face when implementing DevOps. The author’s goal is to not only show you which

tooling there is but help you to successfully use everything together to implement DevOps in your projects and organization. In this book, you'll learn: What DevOps is and how it can help development teams How to use Visual Studio, Visual Studio Team Services, and Azure to setup a DevOps process How to introduce DevOps to your organization and how to overcome problems

### **Cloud Debugging and Profiling in Microsoft**

**Azure** Ed Price 2020-03-27 Use this collection of best practices and tips for assessing the health of a solution. This book provides detailed techniques and instructions to quickly diagnose aspects of your Azure cloud solutions. The initial chapters of this book introduce you to the many facets of Microsoft Azure, explain why and how building for the cloud differs from on-premise development, and outline the need for a comprehensive strategy to debugging and profiling in Azure. You learn the major types of blades (FaaS, SaaS, PaaS, IaaS), how different views can be created for different scenarios, and you will become familiar with the Favorites section, Cost Management & Billing blade, support, and Cloud Shell. You also will know how to leverage Application Insights for application performance management, in order to achieve a seamless cloud development experience. Application Insights, Log Analytics, and database storage topics are covered. The authors further guide you on identity security with Azure AD and continuous delivery with CI and CD covered in detail along with the capabilities of Azure DevOps. And you are exposed to external tooling and trouble shooting in a production environment. After reading this book, you will be able to apply methods to key Azure services, including App Service (Web Apps, Function Apps, and Logic Apps), Cloud Services, Azure Container Service, Azure Active Directory, Azure Storage, Azure SQL Database, Cosmos DB, Log Analytics, and many more. What You Will Learn Debug and manage the performance of your applications Leverage Application Insights for application performance management Extend and automate CI/CD with the help of various build tools, including Azure DevOps, TeamCity, and Cake bootstrapper Who This Book Is For Application developers, designers, and DevOps personnel who want to find

a one-stop shop in best practices for managing their application's performance in the cloud and for debugging the issues accordingly [Software Engineering Aspects of Continuous Development and New Paradigms of Software Production and Deployment](#) Jean-Michel Bruel 2019-01-19 This book constitutes revised selected papers from the First International Workshop on Software Engineering Aspects of Continuous Development and New Paradigms of Software Production and Deployment, DEVOPS 2018, held at the hateau de Villebrumier, France, in March 2018. The 17 papers presented in this volume were carefully reviewed and selected from 23 submissions. They cover a wide range of problems arising from Devops and related approaches, current tools, rapid development-deployment processes, effects on team performance, analytics, trustworthiness, microservices and related topics.

### **Introduction to DevOps with Chocolate, LEGO and Scrum Game**

Dana Pylayeva 2017-01-23 Discover a role-based simulation game designed to introduce DevOps in a very unusual way. Working with LEGO and chocolate, using avatars, personas, and role cards, you will gain an understanding of the Dev and Ops roles as well as their interdependencies. Throughout the game, players go through a range of emotions and learn to expand the boundaries of individual roles, acquire T-shaped skills, and grow the Scrum-team circle to include Operations. The game combines ideas from "The Phoenix Project" with the experience gained from real-life challenges, encountered by development and operations teams in many organizations. Security vulnerabilities, environments patching, deployment code freeze, development and operations silos - the game helps simulate an end-to-end product delivery process and visualize the bottlenecks in the value delivery flow. Introduction to DevOps with Chocolate, LEGO and Scrum Game engages all five senses to maximize learning effectiveness and in three sprints takes players through a gamified DevOps transformation journey. What You Will Learn Play the Chocolate, LEGO and Scrum role-simulation game Gain knowledge of DevOps and how to apply the game to it See how this game illustrates the DevOps



cycle as a case study Who This Book Is For Programmers or system admins/project managers who are new to DevOps. DevOps trainers and Agile Coaches who are interested in offering a collaborative and engaging learning experience to their teams.

### **World Internet Development Report 2019**

Publishing House of Electronics Industry  
2021-04-29 This book systematically reviews world Internet development over the past 50 years, and comprehensively discusses the great contributions it has made to economic and social advances. Further, it describes the development, status and trends related to the Internet in major countries around the globe in 2019, and provides an in-depth analysis of the latest conditions, dynamics and development trends in key areas, including information infrastructure, information technology, digital economy, digital government, Internet media, cyberspace security, and international cyberspace governance. Moreover, the book further modifies and enhances the Global Internet Development Index System, in order to better show the Internet development strengths and advantages in various countries, and to reflect the global development trends more comprehensively, accurately and objectively. This book reviews the significant developments and summarizes the lessons learned as well as the future challenges. From a global perspective, it offers a vision of building a community with a shared future in cyberspace based on the new concepts, new ideas and new achievements of various countries participating in cyberspace development and construction. As such it is a valuable reference resource for anyone working in Internet related fields, such as those in government departments, internet enterprises, scientific research institutions, colleges and universities wanting to fully understand world Internet development.

### Emerging Research in Data Engineering Systems and Computer Communications

P. Venkata Krishna 2020-02-10 This book gathers selected papers presented at the 2nd International Conference on Computing, Communications and Data Engineering, held at Sri Padmavati Mahila Visvavidyalayam, Tirupati, India from 1 to 2 Feb

2019. Chiefly discussing major issues and challenges in data engineering systems and computer communications, the topics covered include wireless systems and IoT, machine learning, optimization, control, statistics, and social computing.

Essentials of Software Engineering Frank Tsui  
2022-01-24 "The basic concepts and theories of software engineering have stabilized considerably from the early days of thirty to forty years ago. Nevertheless, the technology and tools continue to evolve, expand and improve every four to five years. In this fifth edition, we will cover some of these newly established improvements in technology and tools but reduce some areas, such as process assessment models, that is becoming less relevant today. We will still maintain many of the historically important concepts that formed the foundation to this field, such as the traditional process models. Our goal is to continue to keep the content of this book to a concise amount that can be taught in a 16-week semester introductory course"--

### Accelerate Nicole Forsgren PhD 2018-03-27

Winner of the Shingo Publication Award  
Accelerate your organization to win in the marketplace. How can we apply technology to drive business value? For years, we've been told that the performance of software delivery teams doesn't matter—that it can't provide a competitive advantage to our companies. Through four years of groundbreaking research to include data collected from the State of DevOps reports conducted with Puppet, Dr. Nicole Forsgren, Jez Humble, and Gene Kim set out to find a way to measure software delivery performance—and what drives it—using rigorous statistical methods. This book presents both the findings and the science behind that research, making the information accessible for readers to apply in their own organizations. Readers will discover how to measure the performance of their teams, and what capabilities they should invest in to drive higher performance. This book is ideal for management at every level.

### **DevOps on the Microsoft Stack** Wouter de Kort

2016-04-29 This book tells you everything you need to know to help your organization implement

DevOps on the Microsoft platform. You will learn how to use Visual Studio, Visual Studio Team Services, and Azure to implement a complete DevOps process in your company. You will learn about Agile Project Management, Continuous Integration, Continuous Delivery, Technical Debt Management, Automatic Testing and Monitoring, and see how all these areas fit together. DevOps is important for organizations that want to make the best use of their resources and avoid costly mistakes. Teams that embrace DevOps deploy code up to 30 times more frequently than their competition and less than 50% of their deployments fail according to Puppet Labs State of DevOps survey. DevOps on the Microsoft Stack shows you how to help your organization implement DevOps, covering the tooling they will need and how to make everything work together while following best practices. The focus is not only on technology but also on the cultural issues that teams will face when implementing DevOps. The author's goal is to not only show you which tooling there is but help you to successfully use everything together to implement DevOps in your projects and organization. In this book, you'll learn: What DevOps is and how it can help development teams How to use Visual Studio, Visual Studio Team Services, and Azure to setup a DevOps process How to introduce DevOps to your organization and how to overcome problems

*Advanced Information Networking and Applications* Leonard Barolli 2023-03-14 Networks of today are going through a rapid evolution and there are many emerging areas of information networking and their applications. Heterogeneous networking supported by recent technological advances in low power wireless communications along with silicon integration of various functionalities such as sensing, communications, intelligence and actuations are emerging as a critically important disruptive computer class based on a new platform, networking structure and interface that enable novel, low cost and high volume applications. Several of such applications have been difficult to realize because of many interconnections problems. To fulfill their large range of applications different kinds of networks need to collaborate and wired and next generation

wireless systems should be integrated in order to develop high performance computing solutions to problems arising from the complexities of these networks. This volume covers the theory, design and applications of computer networks, distributed computing and information systems. The aim of the volume "Advanced Information Networking and Applications" is to provide latest research findings, innovative research results, methods and development techniques from both theoretical and practical perspectives related to the emerging areas of information networking and applications.

*Systems, Software and Services Process Improvement* Alastair Walker 2019-09-09 This volume constitutes the refereed proceedings of the 26th European Conference on Systems, Software and Services Process Improvement, EuroSPI conference, held in Edinburgh, Scotland, in September 2019. The 18 revised full papers presented were carefully reviewed and selected from 28 submissions. They are organized in topical sections: Visionary Papers, SPI and Safety and Security, SPI and Assessments, SPI and Future Qualification & Team Performance, and SPI Manifesto and Culture. The selected workshop papers are also presented and organized in following topical sections: GamifySPI, Digitalisation of Industry, Infrastructure and E-Mobility. -Best Practices in Implementing Traceability. -Good and Bad Practices in Improvement. -Functional Safety and Cybersecurity. -Experiences with Agile and Lean. -Standards and Assessment Models. -Team Skills and Diversity Strategies. -Recent Innovations.

**Hands-on GitHub Actions** Chaminda Chandrasekara 2021-02-23 Implement continuous integration/continuous delivery (CI/CD) workflows for any application you develop through GitHub Actions. This book will give you an in-depth idea of implementation patterns, solutions for different technology builds, guidelines to implement your own custom components as actions, and usage of features available with GitHub Actions workflows, to set up CI/CD for your repositories. Hands-on GitHub Actions starts with an introduction to GitHub actions that gives an overview on CI/CD followed by an introduction to its workflows. Next,

you will learn how to use variables in a GitHub workflow along with tokens via a REST API. Further, you will explore artifacts and caching dependencies in GitHub and use artifacts in subsequent jobs. Using self-hosted runners is discussed next where you will set up your own hardware and software to run GitHub actions. You will go through publishing packages and migrate to Azure DevOps Pipelines. Along the way, you will use Redis service and PostgreSQL service containers and create custom actions. Finally, you will work with GitHub apps and understand the syntax reference for GitHub Actions and workflows. What You Will Learn Create workflows for any platform and any language with GitHub Actions Develop custom GitHub actions to enhance features and usage of database and service containers Use hosted runners and create self-hosted runners for GitHub workflows Use GitHub Package registry with GitHub Actions to share and use packages Who This Book Is For DevOps teams who want to build quality CI/CD workflows.

**Azure DevOps for Web Developers** Ambily K K 2021-02-25 Explore the architecture, product offerings, and the various stages of implementation processes in Azure DevOps. The book starts with the basic concepts of DevOps and moves on to discuss project management in Azure DevOps. Next, you will learn requirement management and version control in DevOps. Along the way, you will go through test management followed by continuous integration and build automation with more details on code quality and security implementations. Moving forward, you will learn release pipeline and infrastructure as code implementation including ARM-based environment provisioning and execution. Finally, you'll cover DevOps architecture blueprints used for deploying your web applications to different platforms. After reading this book, you will be able to understand each stage of Azure DevOps and master its implementation. What You Will Learn Understand the various concepts of Azure DevOps Apply DevOps concepts in a variety of application contexts including web applications, containers, and database Understand the implementation of end-to-end DevOps in Azure

Work with the different DevOps design patterns and architectures in Azure Who Is This Book For: Developers and architects working with Azure. *Large-Scale Agile Frameworks* Sascha Block 2023-08-17 The book *Large-Scale Agile Frameworks* provides practical solutions for cross-team and cross-functional prioritization of requirements and documentation for enterprises. It reflects the interplay of current technology trends such as cloud computing and organizational requirements for microservices. Organizations are increasingly required to align their IT strategy with customer needs for customer-centric and service-oriented products and services. The book analyzes the unique requirements of a differentiated software service offering and shows how agile principles are effective in addressing these issues. The book also highlights the importance of large-scale agile development and provides guidance to organizations on how to transform their structure towards agile prioritization. The book covers various appropriate models, methodologies, and agile tools and provides recommendations for cross-functional prioritization of requirements. It also considers the need for IT security and shows how it can be integrated into the overall agile development process.

**Systems Engineering and Artificial Intelligence** William F. Lawless 2021-11-02 This book provides a broad overview of the benefits from a Systems Engineering design philosophy in architecting complex systems composed of artificial intelligence (AI), machine learning (ML) and humans situated in chaotic environments. The major topics include emergence, verification and validation of systems using AI/ML and human systems integration to develop robust and effective human-machine teams—where the machines may have varying degrees of autonomy due to the sophistication of their embedded AI/ML. The chapters not only describe what has been learned, but also raise questions that must be answered to further advance the general Science of Autonomy. The science of how humans and machines operate as a team requires insights from, among others, disciplines such as the social sciences, national and international jurisprudence,

ethics and policy, and sociology and psychology. The social sciences inform how context is constructed, how trust is affected when humans and machines depend upon each other and how human-machine teams need a shared language of explanation. National and international jurisprudence determine legal responsibilities of non-trivial human-machine failures, ethical standards shape global policy, and sociology provides a basis for understanding team norms across cultures. Insights from psychology may help us to understand the negative impact on humans if AI/ML based machines begin to outperform their human teammates and consequently diminish their value or importance. This book invites professionals and the curious alike to witness a new frontier open as the Science of Autonomy emerges.

Digital Marketplaces Unleashed Claudia Linnhoff-Popien 2017-09-14 This collection of different views on how digitalization is influencing various industrial sectors addresses essential topics like big data and analytics, fintech and insuretech, cloud and mobility technologies, disruption and entrepreneurship. The technological advances of the 21st century have been massively impacted by the digital upheaval: there is no future without digitalization. The sale of products and services has left the classical point of sale and now takes place on a variety of channels. Whether in the automotive industry, travel and traffic, in cities, or the financial industry - newly designed ecosystems are being created everywhere; data is being generated and analyzed in real time; and companies are competing for mobile access channels to customers in order to gain knowledge about their individual contexts and preferences. In turn, customers can now publicly share their opinions, experiences and knowledge as User Generated Content, allowing them to impact the market and empowering them to build or destroy trust.

Product-Focused Software Process Improvement Xavier Franch 2019-11-18 This book constitutes the refereed proceedings of the 20th International Conference on Product-Focused Software Process Improvement, PROFES 2019, held in Barcelona, Spain, in November 2019. The 24 revised full

papers 4 industry papers, and 11 short papers presented were carefully reviewed and selected from 104 submissions. The papers cover a broad range of topics related to professional software development and process improvement driven by product and service quality needs. They are organized in topical sections on testing, software development, technical debt, estimations, continuous delivery, agile, project management, microservices, and continuous experimentation. This book also includes papers from the co-located events: 10 project papers, 8 workshop papers, and 4 tutorial summaries.

Cloud Computing with Security and Scalability. Naresh Kumar Sehgal 2022-09-03 This book provides readers with an overview of Cloud Computing, starting with historical background on mainframe computers and early networking protocols, leading to current concerns such as hardware and systems security, performance, emerging areas of IoT, Edge Computing, and healthcare etc. Readers will benefit from the in-depth discussion of cloud computing usage and the underlying architectures. The authors explain carefully the “why’s and how’s” of Cloud Computing, so engineers will find this book an invaluable source of information to the topic. This third edition includes new material on Cloud Computing Scalability, as well as best practices for using dynamic cloud infrastructure, and cloud operations management with cost optimizations. Several new examples and analysis of cloud security have been added, including ARM architecture and https protocol. Provides practical guidance for software developers engaged in migrating in-house applications to Public Cloud; Describes for IT managers how to improve their Cloud Computing infrastructures; Includes coverage of security concerns with Cloud operating models; Uses several case studies to illustrate the “why’s and how’s” of using the Cloud; Examples and options to improve Cloud Computing Scalability.

**Practical Azure SQL Database for Modern Developers** Davide Mauri 2020-11-02 Here is the expert-level, insider guidance you need on using Azure SQL Database as your back-end data store. This book highlights best practices in everything

ranging from full-stack projects to mobile applications to critical, back-end APIs. The book provides instruction on accessing your data from any language and platform. And you learn how to push processing-intensive work into the database engine to be near the data and avoid undue networking traffic. Azure SQL is explained from a developer's point of view, helping you master its feature set and create applications that perform well and delight users. Core to the book is showing you how Azure SQL Database provides relational and post-relational support so that any workload can be managed with easy accessibility from any platform and any language. You will learn about features ranging from lock-free tables to columnstore indexes, and about support for data formats ranging from JSON and key-values to the nodes and edges in the graph database paradigm. Reading this book prepares you to deal with almost all data management challenges, allowing you to create lean and specialized solutions having the elasticity and scalability that are needed in the modern world. What You Will Learn Master Azure SQL Database in your development projects from design to the CI/CD pipeline Access your data from any programming language and platform Combine key-value, JSON, and relational data in the same database Push data-intensive compute work into the database for improved efficiency Delight your customers by detecting and improving poorly performing queries Enhance performance through features such as columnstore indexes and lock-free tables Build confidence in your mastery of Azure SQL Database's feature set Who This Book Is For Developers of applications and APIs that benefit from cloud database support, developers who wish to master their tools (including Azure SQL Database), and those who want their applications to be known for speedy performance and the

elegance of their code

*Fast and Scalable Cloud Data Management* Felix Gessert 2020-05-15 The unprecedented scale at which data is both produced and consumed today has generated a large demand for scalable data management solutions facilitating fast access from all over the world. As one consequence, a plethora of non-relational, distributed NoSQL database systems have risen in recent years and today's data management system landscape has thus become somewhat hard to overlook. As another consequence, complex polyglot designs and elaborate schemes for data distribution and delivery have become the norm for building applications that connect users and organizations across the globe - but choosing the right combination of systems for a given use case has become increasingly difficult as well. To help practitioners stay on top of that challenge, this book presents a comprehensive overview and classification of the current system landscape in cloud data management as well as a survey of the state-of-the-art approaches for efficient data distribution and delivery to end-user devices. The topics covered thus range from NoSQL storage systems and polyglot architectures (backend) over distributed transactions and Web caching (network) to data access and rendering performance in the client (end-user). By distinguishing popular data management systems by data model, consistency guarantees, and other dimensions of interest, this book provides an abstract framework for reasoning about the overall design space and the individual positions claimed by each of the systems therein. Building on this classification, this book further presents an application-driven decision guidance tool that breaks the process of choosing a set of viable system candidates for a given application scenario down into a straightforward decision tree.