

SCI SERIES IN SOFTWARE ENGINEERING

DevOps

A Software Architect's Perspective

Len Bass

Ingo Weber

Liming Zhu

Devops A Software Architects Perspective Sei Series In Software Engineering

Dr. Edward



DevOps A Software Architects Perspective Sei Series In Software Engineering:

DevOps Len Bass,Ingo Weber,Liming Zhu,2015-05-08 The First Complete Guide to DevOps for Software Architects

DevOps promises to accelerate the release of new software features and improve monitoring of systems in production but its crucial implications for software architects and architecture are often ignored In DevOps A Software Architect s Perspective three leading architects address these issues head on The authors review decisions software architects must make in order to achieve DevOps goals and clarify how other DevOps participants are likely to impact the architect s work They also provide the organizational technical and operational context needed to deploy DevOps more efficiently and review DevOps impact on each development phase The authors address cross cutting concerns that link multiple functions offering practical insights into compliance performance reliability repeatability and security This guide demonstrates the authors ideas in action with three real world case studies datacenter replication for business continuity management of a continuous deployment pipeline and migration to a microservice architecture Comprehensive coverage includes Why DevOps can require major changes in both system architecture and IT roles How virtualization and the cloud can enable DevOps practices Integrating operations and its service lifecycle into DevOps Designing new systems to work well with DevOps practices Integrating DevOps with agile methods and TDD Handling failure detection upgrade planning and other key issues Managing consistency issues arising from DevOps independent deployment models Integrating security controls roles and audits into DevOps Preparing a business plan for DevOps adoption rollout and measurement

Devops Len Bass,Ingo Weber,Liming Zhu,2015-05-01

DevOps promises to accelerate the release of new software features and improve monitoring of systems in production but its crucial implications for software architects and architecture are often ignored In DevOps A Software Architect s Perspective three leading architects address these issues head on The authors review decisions software architects must make in order to achieve DevOps goals and clarify how other DevOps participants are likely to impact the architect s work They also provide the organizational technical and operational context needed to deploy DevOps more efficiently and review DevOps impact on each development phase The authors also address cross cutting concerns that link multiple functions offering practical insights into compliance performance reliability repeatability and security This guide demonstrates the authors ideas in action with three real world case studies datacenter maintenance for business continuity management of a continuous deployment pipeline and migration to a microservice architecture Comprehensive coverage includes Why DevOps can require major changes in both system architecture and IT roles How virtualization and the cloud can enable DevOps practices Integrating operations and its service lifecycle into DevOps Designing new systems to work well with DevOps practices Overcoming cultural and communication differences between Dev and Ops Integrating DevOps with agile methods and TDD Handling failure detection upgrade planning and other key issues Managing consistency issues arising from DevOps independent deployment models Integrating security controls roles and audits into DevOps Preparing a business plan for

DevOps adoption rollout and measurement **Engineering and Management of Data Centers** Jorge Marx Gómez, Manuel Mora, Mahesh S. Raisinghani, Wolfgang Nebel, Rory V. O'Connor, 2017-11-10 This edited volume covers essential and recent development in the engineering and management of data centers Data centers are complex systems requiring ongoing support and their high value for keeping business continuity operations is crucial The book presents core topics on the planning design implementation operation and control and sustainability of a data center from a didactical and practitioner viewpoint Chapters include Foundations of data centers Key Concepts and Taxonomies ITSDM A Methodology for IT Services Design Managing Risks on Data Centers through Dashboards Risk Analysis in Data Center Disaster Recovery Plans Best practices in Data Center Management Case KIO Networks QoS in NaaS Network as a Service using Software Defined Networking Optimization of Data Center Fault Tolerance Design Energetic Data Centre Design Considering Energy Efficiency Improvements During Operation Demand side Flexibility and Supply side Management The Use Case of Data Centers and Energy Utilities DevOps Foundations and its Utilization in Data Centers Sustainable and Resilient Network Infrastructure Design for Cloud Data Centres Application Software in Cloud Ready Data Centers This book bridges the gap between academia and the industry offering essential reading for practitioners in data centers researchers in the area and faculty teaching related courses on data centers The book can be used as a complementary text for traditional courses on Computer Networks as well as innovative courses on IT Architecture IT Service Management IT Operations and Data Centers

Trends and Applications in Software Engineering Jezreel Mejia, Mirna Muñoz, Álvaro Rocha, Jose A. Calvo-Manzano, 2019-10-16 This book contains a selection of papers from The 2019 International Conference on Software Process Improvement CIMPS 19 held between the 23th and 25th of October in Le n Guanajuato M xico The CIMPS 19 is a global forum for researchers and practitioners that present and discuss the most recent innovations trends results experiences and concerns in the several perspectives of Software Engineering with clear relationship but not limited to software processes Security in Information and Communication Technology and Data Analysis Field The main topics covered are Organizational Models Standards and Methodologies Software Process Improvement Knowledge Management Software Systems Applications and Tools Information and Communication Technologies and Processes in non software domains Mining automotive aerospace business health care manufacturing etc with a demonstrated relationship to Software Engineering Challenges **.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 Azure Analyze and address the part of your DevOps process that causes delays or bottlenecks Track code using Azure Repos and conduct acceptance tests Apply the rules for segmenting applications into Git repositories Understand the different types of builds and when to use each Know how to think about code validation in your DevOps environment Provision and configure environments deploy release candidates across the environments in Azure Monitor 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

Driving DevOps with Value Stream Management Cecil 'Gary' Rupp, Helen Beal, 2021-08-31 A practical guide to implementing Value Stream Management to guide your strategic investments in DevOps capabilities and deliver customer centric value quickly and economically Key Features Address DevOps implementation issues including culture toolchain costs improving work and information flows and product team alignment Implement proven VSM methodology to improve IT value stream flows Leverage VSM platforms to view analyze and improve end to end value delivery Book Description Value Stream Management VSM opens the door to maximizing your DevOps pipeline investments by improving flows and eliminating waste VSM and DevOps together deliver value stream improvements across enterprises for a competitive advantage in the digital world Driving DevOps with Value Stream Management provides a comprehensive review and analysis of industry proven VSM methods and tools to integrate streamline and orchestrate activities within a DevOps oriented value stream You'll start with an introduction to the concepts of delivering value and understand how VSM methods and tools support improved value delivery from a Lean production perspective The book covers the complexities of implementing modern CI CD and DevOps pipelines and then guides you through an eight step VSM methodology with the help of a use case showing an Agile team's efforts to install a CI CD pipeline Free from marketing hype or vendor bias this book presents the current VSM tool vendors and customer use cases that showcase their products strengths As you advance through the book you'll learn four approaches to implementing a DevOps pipeline and get guidance on choosing the best fit By the end of this VSM book you'll be ready to develop and execute a plan to streamline your software delivery pipelines and improve your organization's value stream delivery What you will learn Integrate Agile systems thinking and lean development to deliver customer centric value Find out how to choose the most appropriate value stream for your initial and follow on VSM projects Establish better flows with integrated automated and orchestrated DevOps and CI CD pipelines Apply a proven eight step VSM methodology

to drive lean IT value stream improvements Discover the key strengths of modern VSM tools and their customer use case scenarios Understand how VSM drives DevOps pipeline improvements and value delivery transformations across enterprises Who this book is for This book will help corporate executives managers IT team members and other stakeholders involved in digital business transformations to improve the flow of customer value through their IT based value streams It will provide you with the practical guidance you need while adopting Lean Agile Value Stream Management and DevOps capabilities on an enterprise scale to enable business agility A basic understanding of how CI CD and DevOps pipelines improve software delivery capabilities via integrated and automated toolchains will help you to make the most of the book

AWS Certified DevOps Engineer - Professional: : Architecting Cloud Solutions for Software Engineers Anand Vemula, 2023-11-15 The book *AWS Certified DevOps Engineer Professional Architecting Cloud Solutions for Software Engineers* is a comprehensive guide that caters to a diverse range of professionals in the field of software engineering and cloud architecture This subchapter Target Audience for the Book aims to provide an overview of the individuals who would greatly benefit from the content within First and foremost this book is ideal for Software Engineers who want to enhance their skills and knowledge in implementing and managing DevOps practices within the AWS cloud environment It covers a wide range of topics including continuous integration and delivery infrastructure as code and various AWS services and tools that are essential for a successful DevOps implementation The book is also tailored for AWS Certified Engineers who have already acquired the foundational AWS certification and are looking to further specialize in the field of DevOps It provides valuable insights and practical guidance to help them prepare for the AWS Certified DevOps Engineer Professional exam covering advanced topics specific to DevOps practices and cloud architecture Software Architects Cloud Architects and Platform Architects will find this book invaluable in understanding how to design and architect cloud solutions that are optimized for scalability security and performance It explores various architectural patterns and best practices enabling these professionals to create robust and efficient cloud infrastructure for their organizations For Compliance Professionals the book offers a comprehensive understanding of how to implement and maintain compliance standards and best practices within an AWS cloud environment It covers various security and compliance frameworks such as the AWS Well Architected Framework and the shared responsibility model providing guidance on how to ensure regulatory compliance Lastly the book caters to DevOps Architects who are responsible for designing and implementing CI CD pipelines and managing infrastructure as code It delves into advanced techniques and strategies for automating software delivery leveraging AWS services like AWS CodePipeline AWS CodeBuild and AWS CloudFormation In summary *AWS Certified DevOps Engineer Professional Architecting Cloud Solutions for Software Engineers* is a must have resource for professionals in the niches of AWS Certified DevOps Engineer Professional CI CD Pipeline Management and Infrastructure as Code IaC It equips them with the knowledge and skills needed to excel in their roles and provides a comprehensive guide to successfully architecting and

implementing cloud solutions within the AWS ecosystem *DevOps Design Pattern* Pradeep Chintale,2023-12-29 DevOps design architecture and its implementations with best practices KEY FEATURES Streamlined collaboration for faster high quality software delivery Efficient automation of development testing and deployment processes Integration of continuous monitoring and security measures for reliable applications DESCRIPTION DevOps design patterns encompass a set of best practices aimed at revolutionizing the software development lifecycle It introduces a collaborative and streamlined approach to bring together different aspects of development testing deployment and operations At its core DevOps seeks to break down traditional silos between these functions fostering a culture of cooperation and continuous communication among teams This interconnectivity enables faster higher quality software delivery by eliminating bottlenecks DevOps best practices offer significant benefits to DevOps engineers enhancing their effectiveness and efficiency Examine best practices for version control and dynamic environments closely learn how to build once deploy many and master the art of continuous integration and delivery CI CD reducing manual intervention and minimizing errors Each chapter equips you with actionable insights guiding you through automated testing robust monitoring and effective rollback strategies You will confidently tap into the power of Infrastructure as Code IaC and DevSecOps methodologies ensuring secure and scalable software delivery Overall DevOps best practices enable DevOps engineers to deliver high quality scalable and secure software in a more streamlined and collaborative environment WHAT YOU WILL LEARN Apply DevOps design patterns to optimize system architecture and performance Implement DevOps best practices for efficient software development Establish robust and scalable CI CD processes with security considerations Effectively troubleshoot issues and ensure reliable and resilient software Seamlessly integrate security practices into the entire software development lifecycle from coding to deployment WHO THIS BOOK IS FOR Software Developers Software Architects Infrastructure Engineers Operation Engineers Cloud Engineers Quality Assurance QA Engineers and all DevOps professionals across all experience levels to master efficient software delivery through proven design patterns TABLE OF CONTENTS 1 Why DevOps 2 Implement Version Control and Tracking 3 Dynamic Developer Environment 4 Build Once Deploy Many 5 Frequently Merge Code Continuous Integration 6 Software Packaging and Continuous Delivery 7 Automated Testing 8 Rapid Detection of Compliance Issues and Security Risks 9 Rollback Strategy 10 Automated Infrastructure 11 Focus on Security DevSecOps *DevOps Security and Automation* Nishant Singh,2025-07-29 DESCRIPTION DevOps has emerged as a crucial methodology for streamlining processes enhancing collaboration and delivering high quality software at scale It is fundamentally changing how software is developed and delivered focusing on speed quality and seamless collaboration This book equips readers with the knowledge and practical skills needed to excel in DevOps From foundational concepts to advanced techniques it covers the DevOps lifecycle including version control CI CD IaC containerization Kubernetes observability security integration and site reliability engineering Each chapter includes hands on exercises using industry standard tools like Docker Jenkins Terraform and Prometheus By the end

of this book readers will have gained theoretical knowledge and practical experience to implement DevOps principles effectively automate workflows and drive innovation within their organization

WHAT YOU WILL LEARN

- Build automated CI CD pipelines with Jenkins and GitHub Actions
- Implement IaC using Terraform and Ansible
- Deploy containerized applications with Docker and Kubernetes
- Integrate security practices into DevOps workflows
- Apply site reliability engineering principles for system reliability
- Automate testing strategies including TDD and BDD approaches
- Provision cloud IaC using Terraform and Ansible

WHO THIS BOOK IS FOR

This book is designed for software engineers, DevOps engineers, system administrators, and IT professionals looking to master DevOps practices. Perfect for developers wanting to automate deployment operations and tech leads driving DevOps adoption.

TABLE OF CONTENTS

- 1 Understanding DevOps Culture and Principles
- 2 Setting up Development Environments
- 3 Version Control and Git Workflows
- 4 Continuous Integration Fundamentals
- 5 Introduction to Infrastructure as Code
- 6 Continuous Delivery and Deployment
- 7 Configuration Management
- 8 Observability with TEMPLE
- 9 Containerization and Docker Best Practices
- 10 Kubernetes Essentials
- 11 DevSecOps
- 12 Continuous Testing and Quality Assurance
- 13 Site Reliability Engineering
- 14 Advanced DevOps Automation
- 15 Platform Engineering

[DevOps Unleashed with Git and GitHub](#)

Yuki Hattori, 2024-04-19

Unlock the full potential of your team with Git mastery, seamless DevOps workflows, and the power of AI integration.

Key Features

- Gain a comprehensive understanding of Git, GitHub, and DevOps with practical implementation tips.
- Embark on a holistic exploration of DevOps workflows, scaling DevSecOps, and GitHub Copilot.
- Discover the best practices for optimizing processes and team productivity.

Purchase of the print or Kindle book includes a free PDF eBook.

Book Description

Git and GitHub are absolutely crucial for DevOps, playing a multifaceted role in streamlining the software development lifecycle and enabling smoother collaboration between development and operations teams. *DevOps Unleashed with Git and GitHub* enables you to harness the power of Git and GitHub to streamline workflows, drive collaboration, and fuel innovation. Authored by an expert from GitHub, the book starts by guiding you through Git fundamentals and delving into DevOps and the developer experience. As you progress, you'll understand how to leverage GitHub's collaboration and automation features and even use GitHub Copilot for enhanced productivity. You'll also learn how to bridge the DevOps gap, maintain code quality, and implement robust security measures. Additionally, hands-on exercises will equip you to elevate your developer experience, foster teamwork, and drive innovation at the speed of DevOps. By the end of this DevOps book, you'll have mastered the Git fundamentals, conquered collaboration challenges, and unleashed the power of GitHub as you transform your DevOps workflows.

What you will learn

- Master the fundamentals of Git and GitHub.
- Unlock DevOps principles that drive automation, continuous integration, and continuous deployment, CI/CD, and monitoring.
- Facilitate seamless cross-team collaboration.
- Boost productivity using GitHub Actions.
- Measure and improve development velocity.
- Leverage the GitHub Copilot AI tool to elevate your developer experience.

Who this book is for

If you're aiming to enhance collaboration, productivity, and DevOps practices to enrich your development experience, this book is for you. **Novice DevOps**

engineers will be able to resolve their doubts surrounding Git and GitHub errors while IT admins and system engineers will be able to effortlessly embrace DevOps principles with pragmatic insights. For infrastructure engineers looking to delve into cloud-based collaboration and optimal management practices, this book provides valuable knowledge to facilitate a seamless transition into the DevOps landscape.

DevOps for Digital Leaders Aruna Ravichandran, Kieran Taylor, Peter Waterhouse, 2016-11-09. Learn to design, implement, measure, and improve DevOps programs that are tailored to your organization. This concise guide assists leaders who are accountable for the rapid development of high-quality software applications. In *DevOps for Digital Leaders*, deep collective experience on both sides of the dev ops divide informs the global thought leadership and penetrating insights of the authors, all three of whom are cross-portfolio DevOps leaders at CA Technologies. Aruna Ravichandran, Kieran Taylor, and Peter Waterhouse analyze the organizational benefits, costs, freedoms, and constraints of DevOps. They chart the coordinated strategy of organizational change metrics, lean thinking, and investment that an enterprise must undertake to realize the full potential of DevOps and reach the sweet spot where accelerating code deployments drive increasing customer satisfaction, revenue, and profitability. Digital leaders are charged to bridge the dev ops disconnect if their organizations are to survive and flourish in a business world increasingly differentiated by the degree to which dynamic application software development harmonizes with operational resilience and reliability. This short book applies the DevOps perspective to the competitive challenge faced by every high-performance IT organization today of integrating and automating open-source cloud and enterprise tools, processes, and techniques across the software development life cycle from requirements to release. What You Will Learn: Remove dependencies and constraints so that parallel practices can accelerate the development of defect-free software. Automate continuous delivery across the software life cycle to eliminate release bottlenecks, manual labor waste, and technical debt accumulation. Generate virtualized production-style testing of applications through real-time behavioral analytics. Adopt agile practices so operations teams can support developer productivity with automated feedback, streamline infrastructure monitoring, spot and resolve operations issues before they impact production, and improve customer experience. Identify the DevOps metrics appropriate to your organization and integrate DevOps with your existing best practices and investment. Who This Book Is For: IT leaders in large companies and government agencies who have any level of responsibility for the rapid development of high-quality software applications. The secondary readership is members of development and operations teams, security professionals, and service managers.

Solutions Architect's Handbook Saurabh Shrivastava, Neelanjali Srivastava, 2022-01-17. Third edition out now with coverage on Generative AI, clean architecture, edge computing, and more. Key Features: Turn business needs into end-to-end technical architectures with this practical guide. Assess and overcome various challenges while updating or modernizing legacy applications. Future-proof your architecture with IoT, machine learning, and quantum computing. Book Description: Becoming a solutions architect requires a hands-on approach, and this edition of the *Solutions Architect's Handbook* provides a comprehensive guide to the role. It covers the fundamentals of solutions architecture, from understanding business requirements to designing and implementing solutions. The book is divided into several sections, each focusing on a different aspect of the role. The first section covers the basics of solutions architecture, including the role of the solutions architect, the solutions architecture process, and the key components of a solutions architecture. The second section covers the design of solutions architectures, including the importance of understanding business requirements, the role of the solutions architect in the design process, and the key components of a solutions architecture. The third section covers the implementation of solutions architectures, including the importance of understanding business requirements, the role of the solutions architect in the implementation process, and the key components of a solutions architecture. The fourth section covers the maintenance of solutions architectures, including the importance of understanding business requirements, the role of the solutions architect in the maintenance process, and the key components of a solutions architecture. The book is a comprehensive guide to the role of the solutions architect, covering everything from the basics to the advanced topics. It is a must-read for anyone interested in solutions architecture.

Handbook brings exactly that This handbook will teach you how to create robust scalable and fault tolerant solutions and next generation architecture designs in a cloud environment It will also help you build effective product strategies for your business and implement them from start to finish This new edition features additional chapters on disruptive technologies such as Internet of Things IoT quantum computing data engineering and machine learning It also includes updated discussions on cloud native architecture blockchain data storage and mainframe modernization with public cloud The Solutions Architect s Handbook provides an understanding of solution architecture and how it fits into an agile enterprise environment It will take you through the journey of solution architecture design by providing detailed knowledge of design pillars advanced design patterns anti patterns and the cloud native aspects of modern software design By the end of this handbook you ll have learned the techniques needed to create efficient architecture designs that meet your business requirements What you will learn Explore the various roles of a solutions architect in the enterprise landscape Implement key design principles and patterns to build high performance cost effective solutions Choose the best strategies to secure your architectures and increase their availability Modernize legacy applications with the help of cloud integration Understand how big data processing machine learning and IoT fit into modern architecture Integrate a DevOps mindset to promote collaboration increase operational efficiency and streamline production Who this book is for This book is for software developers system engineers DevOps engineers architects and team leaders who already work in the IT industry and aspire to become solutions architect professionals Existing solutions architects who want to expand their skillset or get a better understanding of new technologies will also learn valuable new skills To get started you ll need a good understanding of the real world software development process and general programming experience in any language **DevOps Foundation Courseware - English** Oleg Skrynnik,2019-01-15 Besides the DevOps Foundation Courseware English ISBN 9789401803595 publication you are advised to obtain the publication DevOps A Business Perspective ISBN 978 940 180 372 4 DevOps enables organizations to decrease time to market for new releases software or services by encouraging a collaborative approach from development and operations teams The adoption of DevOps creates an environment where productivity is increased through the automation of processes around infrastructure and workflows DevOps as a phenomenon associated with new automation tools programming techniques or technologies It differs from other books by the structural nature of the narrative perhaps excessively structured approach and by the attempt to cover fully the phenomenon of DevOps at a basic fundamental level *DevOps Culture and Practice with OpenShift* Tim Beattie, Mike Hepburn, Noel O'Connor, Donal Spring, 2021-08-23 A practical guide to making the best use of the OpenShift container platform based on the real life experiences practices and culture within Red Hat Open Innovation Labs Key Features Learn how modern software companies deliver business outcomes that matter by focusing on DevOps culture and practices Adapt Open Innovation Labs culture and foundational practices from the Open Practice Library Implement a metrics driven approach to application

platform and product understanding what to measure and how to learn and pivot

Book Description DevOps Culture and Practice with OpenShift features many different real world practices some people related some process related some technology related to facilitate successful DevOps and in turn OpenShift adoption within your organization It introduces many DevOps concepts and tools to connect culture and practice through a continuous loop of discovery pivots and delivery underpinned by a foundation of collaboration and software engineering Containers and container centric application lifecycle management are now an industry standard and OpenShift has a leading position in a flourishing market of enterprise Kubernetes based product offerings DevOps Culture and Practice with OpenShift provides a roadmap for building empowered product teams within your organization This guide brings together lean agile design thinking DevOps culture facilitation and hands on technical enablement all in one book Through a combination of real world stories a practical case study facilitation guides and technical implementation details DevOps Culture and Practice with OpenShift provides tools and techniques to build a DevOps culture within your organization on Red Hat s OpenShift Container Platform What you will learn

Implement successful DevOps practices and in turn OpenShift within your organization

Deal with segregation of duties in a continuous delivery world

Understand automation and its significance through an application centric view

Manage continuous deployment strategies such as A B rolling canary and blue green

Leverage OpenShift s Jenkins capability to execute continuous integration pipelines

Manage and separate configuration from static runtime software

Master communication and collaboration enabling delivery of superior software products at scale through continuous discovery and continuous delivery

Who this book is for This book is for anyone with an interest in DevOps practices with OpenShift or other Kubernetes platforms This DevOps book gives software architects developers and infra ops engineers a practical understanding of OpenShift how to use it efficiently for the effective deployment of application architectures and how to collaborate with users and stakeholders to deliver business impacting outcomes

Demystifying Azure DevOps Services

Ashish Raj, 2021-03-22 Learn about Azure DevOps services to successfully apply DevOps strategies

KEY FEATURES _ Share knowledge on DevOps implementation and use of Azure DevOps services _ Learn about Azure artifacts dependency management and CI CD pipeline management _ Manage third party integration

Agile planning and application lifecycle management

DESCRIPTION This book offers readers the best DevOps practices and explains how to implement various services of Azure DevOps to ensure efficiency effectiveness and better management of the entire software development lifecycle This book explains each component of Azure DevOps services their pricing models and a quick tutorial on how to proceed with its usage Backed with numerous examples this book helps you implement Agile planning using Azure Boards maintain code versioning using Azure Repos and manage CI CD using Azure Pipelines You will learn how to administer the DevOps process such as managing packages using the most popular Azure Artifacts and how to run Test Plans using Azure Test Plans You will also learn how to integrate with third party systems Finally you will learn about marketplaces of

extensions and how to develop your own extensions

WHAT YOU WILL LEARN

- _ Learn DevOps culture practices and habits
- _ Learn to manage version control of the source code within Azure DevOps Services
- _ Learn how to administer Azure DevOps services for an enterprise application lifecycle management system
- _ Learn Azure DevOps services and features

WHO THIS BOOK IS FOR This book is for anyone who wishes to use or who are using Azure DevOps services including Infrastructure engineers Software engineers Architects Testers Managers or Product Owners

TABLE OF CONTENTS

- 1 Introduction to Azure DevOps
- 2 Azure DevOps Organization
- 3 Azure DevOps Project
- 4 Azure Board
- 5 Azure Repos
- 6 Azure Pipelines
- 7 Azure Artifacts
- 8 Azure Test Plans
- 9 Extension Marketplace

Embracing DevOps Release Management Joel Kruger, 2024-04-12

Unlock the power of DevOps release management to elevate your software development with early quality checks testing automation and QA integration reshaping your software delivery life cycle for excellence

Key Features

- Understand the SDLC and the most popular release management models
- Learn what makes DevOps unique and how CI CD pipelines enforce good DevOps release management
- Drive a culture driven release management initiative in your organization that breaks down silos

Purchase of the print or Kindle book includes a free PDF eBook

Book Description

At the core of software development lies the imperative of swiftly and reliably releasing new features and updates emphasizing the vital role of release management in the DevOps methodology

Discover how software development teams can elevate their processes by incorporating quality checks and shifting left moving testing automation and QA procedures much earlier into the SDLC

However release management is still tasked with application monitoring overseeing infrastructure components and managing change orders and schedules

This book offers insights into the essence of DevOps Release Management illuminating its nuances and providing basic strategies for its implementation

You ll explore how CI CD pipelines enforce good DevOps release management and master techniques to optimize them

You ll also learn how to foster a culture of cross functional product development that minimizes waste and maximizes value to the customer

By the end of the book you ll have gained a comprehensive understanding of DevOps release management its benefits and practical implementation strategies

Equipped with this knowledge you ll be able to assess your own development processes and identify areas for improvement ultimately leading to increased efficiency collaboration and value creation

What you will learn

- Discover the significance and anatomy of the SDLC
- Understand the history of release management and how various models work
- Grasp DevOps release management and basic strategies to implement it
- Construct optimized CI CD pipelines capable of early issue detection
- Implement the shift left approach to enhance value delivery to customers at record speed
- Foster a culture of cross functional collaboration in your team
- Make DevOps release management pragmatic and accessible
- Overcome common pitfalls in DevOps release management

Who this book is for This book is a comprehensive introduction for those who are new to DevOps release management but it s also valuable for DevOps engineers and release managers looking to enhance their skills and knowledge

If you re looking to adopt key practices to shift left this book will enable you to build high quality products in

record time **Kickstart Software Design Architecture: Transform Your Software Development Journey with Key Principles and Advanced Practices in Architecture, Microservices, and Cloud Computing** Dr. Edward, 2024-09-17

Learn to design robust software systems using modern architecture principles and practical hands on experience Key Features Learn about fundamental software architecture concepts including design patterns microservices and cloud computing Bridge theory with practice through real world examples and case studies Gain expertise through an interactive and engaging learning approach featuring coding exercises and hands on opportunities Book Description Explore the ever evolving world of software architecture Bridge the gap between emerging technologies and foundational principles with a comprehensive guide tailored for newcomers to the field The book highlights the significance of software architecture in building scalable efficient and robust applications The book is structured into engaging chapters each focused on a specific aspect of software architecture It starts with an introduction to the basics of software design patterns gaining an understanding of their role in crafting flexible and reusable code Next microservices are covered followed by chapters that focus on cloud computing containerization and more Chapters contain real world examples hands on exercises and case studies to help readers gain both foundational knowledge and hands on experience By the end of the book you should have a solid foundation in software architecture and be equipped with the knowledge and skills to confidently address complex software architectural challenges What you will learn Understand the essential principles and concepts of software architecture including key design considerations and methodologies Explore the principles of design patterns to create flexible reusable and maintainable code Learn about the impact of different programming languages on software architecture and development and how to choose the right language for your projects Gain insight into the microservices architecture its benefits challenges and best practices for implementation Table of Contents 1 Introduction to Software Architecture 2 Principles of Design Patterns 3 Role of Programming Languages 4 Introduction to Microservices 5 Building Microservices with Spring Boot 6 Containerization with Docker 7 Fundamentals of Cloud Computing 8 Deploying in the Cloud 9 DevOps Practices 10 Version Control with Git 11 Designing for Scalability and Efficiency 12 Future Trends in Software Architecture Index

Solutions Architect's Handbook Saurabh Shrivastava, Neelanjali Srivastav, 2020-03-21 From fundamentals and design patterns to the different strategies for creating secure and reliable architectures in AWS cloud learn everything you need to become a successful solutions architect Key Features Create solutions and transform business requirements into technical architecture with this practical guide Understand various challenges that you might come across while refactoring or modernizing legacy applications Delve into security automation DevOps and validation of solution architecture Book Description Becoming a solutions architect gives you the flexibility to work with cutting edge technologies and define product strategies This handbook takes you through the essential concepts design principles and patterns architectural considerations and all the latest technology that you need to know to become a successful solutions architect This book starts

with a quick introduction to the fundamentals of solution architecture design principles and attributes that will assist you in understanding how solution architecture benefits software projects across enterprises You ll learn what a cloud migration and application modernization framework looks like and will use microservices event driven cache based and serverless patterns to design robust architectures You ll then explore the main pillars of architecture design including performance scalability cost optimization security operational excellence and DevOps Additionally you ll also learn advanced concepts relating to big data machine learning and the Internet of Things IoT Finally you ll get to grips with the documentation of architecture design and the soft skills that are necessary to become a better solutions architect By the end of this book you ll have learned techniques to create an efficient architecture design that meets your business requirements What you will learn Explore the various roles of a solutions architect and their involvement in the enterprise landscape Approach big data processing machine learning and IoT from an architect s perspective and understand how they fit into modern architecture Discover different solution architecture patterns such as event driven and microservice patterns Find ways to keep yourself updated with new technologies and enhance your skills Modernize legacy applications with the help of cloud integration Get to grips with choosing an appropriate strategy to reduce cost Who this book is for This book is for software developers system engineers DevOps engineers architects and team leaders working in the information technology industry who aspire to become solutions architect professionals A good understanding of the software development process and general programming experience with any language will be useful

DevOps - A Business Perspective Oleg Skrynnik,2018-12-14 This book explains the management aspects of DevOps for those who are professionally engaged in information and technology management It does not show DevOps as a phenomenon associated with new automation tools programming techniques or technologies It differs from other books by the structural nature of the narrative perhaps excessively structured approach and by the attempt to cover fully the phenomenon of DevOps at a basic fundamental level By this approach this book not only creates awareness of the new subject area but is also helps building the basics The reader learns about the origins of DevOps the inevitability of its emergence the key prerequisites and their reflection in practices about the practices themselves and the principles on which they are based This book is the core literature of the EXIN DevOps Foundation certification This exam tests the understanding of basic DevOps concepts and how they relate to each other as well as the value of DevOps for the business EXIN DevOps Foundation is the first level of the EXIN DevOps certification program The EXIN DevOps Professional certification tests the knowledge of DevOps practices and how to integrate teams The EXIN DevOps Master certification is about promoting organizational change and leading the way towards continuous delivery and improvement

AWS DevOps Simplified Akshay Kapoor,2023-09-29 The complete guide to increasing the DevOps maturity of your organization while adhering to AWS well architected principles Key Features Increase your organization s DevOps maturity level from both strategic and tactical standpoint Get hands on AWS experience with ready to

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