

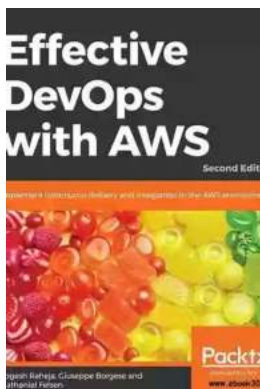
How to Implement Continuous Delivery and Integration in the AWS Environment: The Ultimate Guide (2nd Edition)

Are you tired of manual deployments, delays in software updates, and limited collaborations between teams? If so, it's time to embrace the power of Continuous Delivery and Integration in the AWS Environment, and this guide is here to help you achieve just that. In this 2nd edition, we explore the latest updates and best practices to ensure smooth development and deployment workflows.

What is Continuous Delivery and Integration?

Continuous Delivery and Integration (CD/CI) is a set of practices that allow developers to frequently push code changes to production environments with minimal manual intervention. It is a crucial part of modern software development, enabling agility, faster time-to-market, and higher quality deliverables.

In the AWS environment, CD/CI leverages the power of cloud computing to automate various stages of the software release process, such as building, testing, and deploying applications.



Effective DevOps with AWS: Implement continuous delivery and integration in the AWS environment, 2nd Edition

by Yogesh Raheja(2nd Edition, Kindle Edition)

★★★★☆ 4.2 out of 5

Language : English

File size : 29534 KB

Text-to-Speech : Enabled

Enhanced typesetting : Enabled

Print length : 384 pages

Screen Reader : Supported



The Benefits of CD/CI in AWS

Implementing CD/CI in the AWS environment brings numerous benefits for organizations of all sizes. It enables:

- **Accelerated Time-to-Market:** CD/CI practices eliminate manual processes, allowing developers to release software updates more frequently and efficiently.
- **Improved Collaboration:** With CD/CI, development and operations teams can work together seamlessly, fostering better communication, faster feedback cycles, and faster issue resolution.
- **Reduced Risk:** Automated testing and deployment processes minimize errors and reduce the chances of deploying faulty code to production environments.
- **Scalability:** AWS provides scalable infrastructure that can handle an increased workload during peak times without compromising performance.
- **Cost-Effectiveness:** CD/CI in AWS allows you to optimize resource utilization, reducing overall infrastructure costs.

Getting Started: Setting Up AWS for CD/CI

Before diving into CD/CI practices, you need to set up your AWS environment properly. Here's an overview of the key steps:

1. **Create an AWS Account:** If you don't have an AWS account already, sign up for one using the official AWS website.
2. **Choose AWS Services:** Determine which AWS services you will need for your CD/CI processes, such as AWS CodePipeline, AWS CodeBuild, and AWS CodeDeploy.
3. **Configure IAM:** Set up AWS Identity and Access Management (IAM) roles to allow proper access and permissions for CD/CI processes.
4. **Provision Infrastructure:** Use AWS CloudFormation or infrastructure-as-code tools like AWS CDK to create and manage your AWS resources.

Implementing CD/CI Pipelines in AWS

One of the core components of CD/CI in AWS is the establishment of pipelines that automate the build, test, and deployment processes. Here's how you can set it up:

1. **Create a Code Repository:** Use AWS CodeCommit or integrate with popular version control systems like Git or Bitbucket to store your source code.
2. **Configure CodeBuild:** Set up AWS CodeBuild to ensure automated building and compiling of your source code.
3. **Set Up Testing:** Utilize tools like AWS CodeBuild or third-party frameworks such as Selenium or JUnit to automate testing processes.
4. **Deploy with CodeDeploy:** Use AWS CodeDeploy to automate deployment to your chosen AWS infrastructure, whether it's EC2 instances, Lambda functions, or containers.

Advanced CD/CI Techniques in AWS

Once you have the basic CD/CI pipeline in place, you can benefit from more advanced techniques to enhance your workflows:

- **Infrastructure as Code:** Use tools like AWS CDK or AWS CloudFormation to define and manage your infrastructure as code, making it easily reproducible and version controlled.
- **Blue/Green Deployments:** Implement a blue/green deployment strategy to minimize downtime and reduce the risks associated with deploying new versions of your applications.
- **Monitoring and Logging:** Leverage AWS CloudWatch to monitor your applications' health and performance, set up alerts, and collect valuable logs for troubleshooting.
- **Scaling and Auto-Scaling:** Harness the power of AWS Auto Scaling to automatically adjust your resource capacity based on demand, ensuring optimal performance and cost-efficiency.

Best Practices and Continuous Improvement

Continuous Delivery and Integration is an iterative process that requires ongoing optimization and improvement. Here are some best practices to help you achieve continuous improvement:

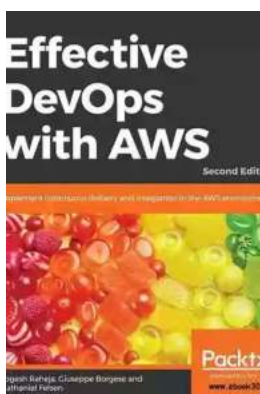
- **Automated Deployment Verification:** Implement automated testing and validation processes to minimize the risk of deploying faulty code to production environments.
- **Incremental Deployments:** Embrace the principle of small incremental deployments, allowing faster rollback and easier troubleshooting in case of issues.

- **Code Reviews and Pair Programming:** Foster a culture of collaborative code reviews and pair programming to enhance code quality and knowledge sharing.
- **Monitoring and Metrics:** Continuously monitor key metrics, such as deployment frequency, lead time, and mean time to recover, to identify areas for improvement.

The Future of Continuous Delivery and Integration in AWS

Continuous Delivery and Integration will continue to evolve and improve over time, and AWS remains at the forefront of this evolution. As organizations strive for faster software release cycles and higher quality deliverables, CD/CI in the AWS environment will play a crucial role in achieving those goals.

In this 2nd edition guide, we've covered the fundamentals, implementation steps, advanced techniques, and best practices of CD/CI in AWS. Now it's time for you to take the leap and revolutionize your software development lifecycle. Welcome to the world of Continuous Delivery and Integration in the AWS environment!



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Scale and maintain outstanding performance in your AWS-based infrastructure using DevOps principles

Key Features

- Implement continuous integration and continuous deployment pipelines on AWS
- Gain insight from an expert who has worked with Silicon Valley's most high-profile companies
- Implement DevOps principles to take full advantage of the AWS stack and services

Book Description

The DevOps movement has transformed the way modern tech companies work. Amazon Web Services (AWS), which has been at the forefront of the cloud computing revolution, has also been a key contributor to the DevOps movement, creating a huge range of managed services that help you implement DevOps principles.

Effective DevOps with AWS, Second Edition will help you to understand how the most successful tech start-ups launch and scale their services on AWS, and will teach you how you can do the same. This book explains how to treat infrastructure as code, meaning you can bring resources online and offline as easily as you control your software. You will also build a continuous integration and continuous deployment pipeline to keep your app up to date. Once you have gotten to grips with all this, we'll move on to how to scale your applications to offer maximum performance to users even when traffic spikes, by using the latest

technologies, such as containers. In addition to this, you'll get insights into monitoring and alerting, so you can make sure your users have the best experience when using your service. In the concluding chapters, we'll cover inbuilt AWS tools such as CodeDeploy and CloudFormation, which are used by many AWS administrators to perform DevOps. By the end of this book, you'll have learned how to ensure the security of your platform and data, using the latest and most prominent AWS tools.

What you will learn

- Implement automatic AWS instance provisioning using CloudFormation
- Deploy your application on a provisioned infrastructure with Ansible
- Manage infrastructure using Terraform
- Build and deploy a CI/CD pipeline with Automated Testing on AWS
- Understand the container journey for a CI/CD pipeline using AWS ECS
- Monitor and secure your AWS environment

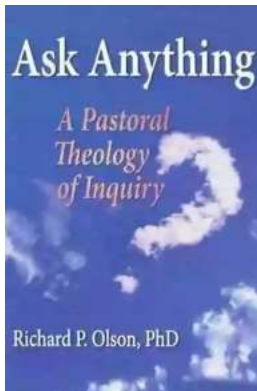
Who this book is for

Effective DevOps with AWS is for you if you are a developer, DevOps engineer, or you work in a team which wants to build and use AWS for software infrastructure. Basic computer science knowledge is required to get the most out of this book.

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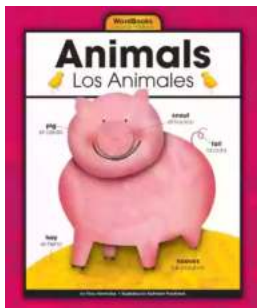
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