

DevOps Implementation at Banana Talent



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ABSTRACT

This report details a co-op internship focused on the installation and configuration of servers, as well as the creation and customization of a Continuous Integration/Continuous Deployment (CI/CD) system using Azure Pipelines. The internship was conducted for the Banana Talent project, a web application designed to streamline the recording of employee data and internal company projects. The primary objective was to enhance developer and tester efficiency by automating repetitive tasks and processes, from building to testing and deploying software.

The internship involved designing and implementing a DevOps system for the Banana Talent web application to improve the efficiency and quality of the software development process. In accordance with Continuous Integration/Continuous Delivery (CI/CD) principles, a pipeline was developed to automate various processes, including code testing and deployment. Additionally, Infrastructure as Code (IaC) was adopted to manage the system's infrastructure, enabling rapid and flexible system modifications and expansions. The results showed that the developed DevOps system significantly reduced software delivery time, decreased the number of errors, and enhanced system stability.

Introduction

Banana Coding Co., Ltd. handles a large number of client projects and employees. Previously, various tools were used to collect and manage data, resulting in inefficiencies and redundancy. To address this issue, the Banana Talent web application was developed to centralize project details, employee profiles, skills, and events. This system enhances efficiency in tracking employee skill development and project management, leading to improved overall workflow within the company.

result

This project was significantly enhanced by a newly implemented DevOps system. A streamlined workflow has been implemented across the Development, UAT, and Production servers. An Azure Pipelines CI/CD pipeline automates builds, tests, and deployments, leading to faster releases and fewer errors. Enhanced system stability is ensured through a monitoring and alerting system. These improvements translate to increased efficiency, reduced delivery time and errors, and higher application quality.

Reference

What Are the 7 Key Phases of the DevOps Lifecycle?
Available: <https://roadmap.sh/devops/lifecyclestudy>.

TECHNOLOGIES



NginX



Uptime Kuma



Fail2Ban



Terraform



Capistrano



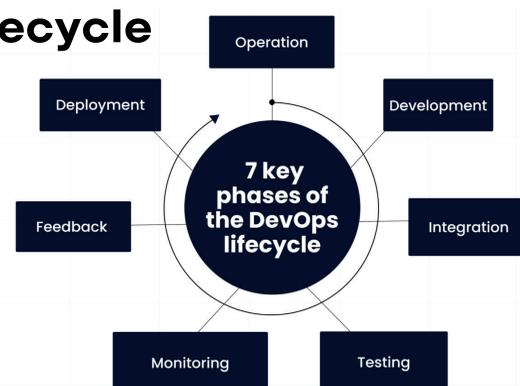
Azure Pipelines



Docker

Methodology

DevOps Lifecycle



Conclusion

This project successfully implemented a DevOps system for the Banana Talent web application, significantly improving software development efficiency and quality. Automating build, testing, and deployment through a CI/CD pipeline, along with infrastructure as code, resulted in faster releases, fewer errors, and enhanced system stability. This project demonstrated the value of DevOps practices in streamlining workflows and optimizing software delivery.