Introduction to Continuous Integration and Continuous Deployment (CI/CD) and its Benefits for UdaPeople

Introduction

UdaPeople is dedicated to providing the best possible HR experience for small businesses, and to achieve this, it is crucial that we have a solid software development process in place. Continuous Integration and Continuous Deployment (CI/CD) is a crucial aspect of this process that can bring numerous benefits to the UdaPeople product and the organization as a whole.

What is CI/CD?

CI/CD is a software development practice where code changes are automatically built, tested, and deployed to production, with minimal manual intervention. This practice helps to ensure that code changes are tested and validated before they are deployed to production, reducing the risk of bugs and errors that can negatively impact the user experience.

Continuous Integration

The practice of merging all developers' working copies to a shared mainline several times a day. It's the process of "Making". Everything related to the code fits here, and it all culminates in the ultimate goal of CI: a high quality, deployable artifact!

Continuous Deployment

A software engineering approach in which the value is delivered frequently through automated deployments. Everything related to deploying the artifact fits here. It's the process of "Moving" the artifact from the shelf to the spotlight

Benefits of CI/CD for UdaPeople

Here we will use the "Framework for Value" by Black Swan Farming which says that business value will do one of four things; Increase revenue, protect revenue, reduce cost and avoid cost, to further understand the benefits of CI/CD to the business

	Benefit of CI/CD	Value	Translation
01	CI/CD catches compile errors after merge	Reduce cost	This creates less time spent on issues from new developer code
02	CI/CD catches unit test failures	Avoid cost	This means there are less bugs in production and less time in testing
03	CI/CD is able to detect vulnerabilities in securities	Avoid cost	This can prevent embarrassing or costly security holes

Benefits of CI/CD for UdaPeople

Benefit of CI/CD	Value	Translation
04 CI/CD automates infrastructure creation	Avoid cost	This creates less human errors and faster deployments
05 CI/CD automates infrastructure cleanup	Reduce cost	This means there is less cost from unused resources
06 CI/CD gives us faster and more frequent deployments productions	Increase Revenue	We will have value-generating features released more quickly
07 CI/CD makes deploying to production easy and without manual checks	Increase Revenue	This means that it will take less time take the product to market.

Conclusion

CI/CD is a proven software development practice that can bring numerous benefits to the UdaPeople product and the organization as a whole. By improving the speed, reliability, and efficiency of software delivery, CI/CD can help UdaPeople to better serve its customers and continue to lead the way in HR innovation.