Fundamentals and Benefits of CI/CD for UdaPeople

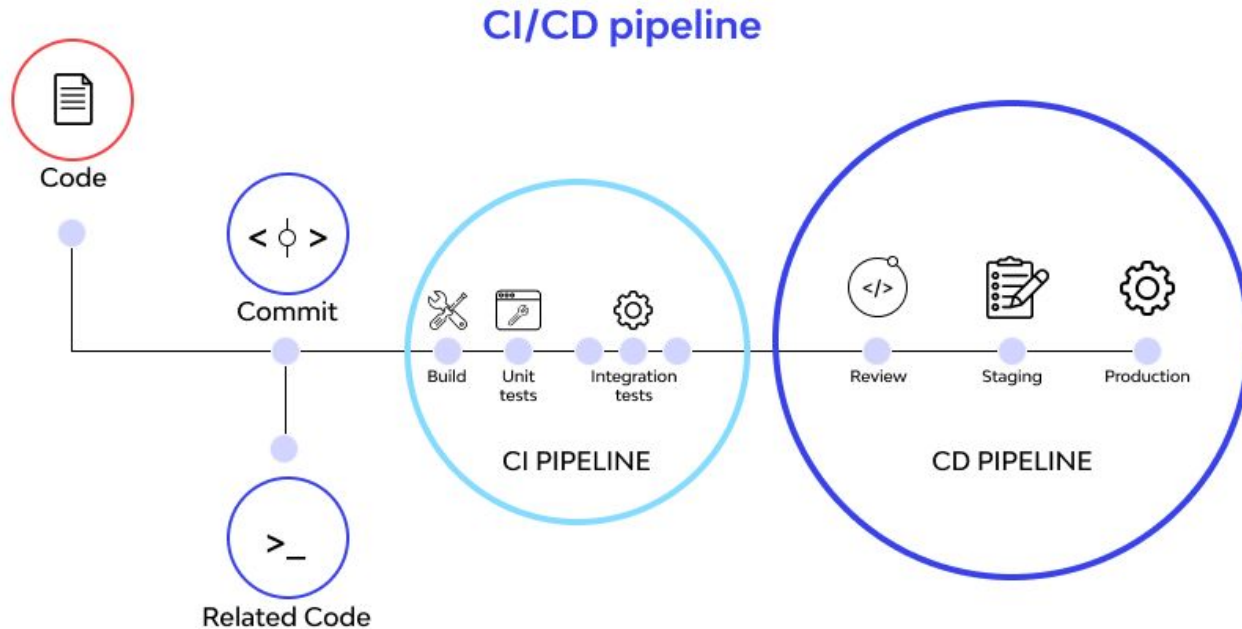Nehemie Niyomahoro

Tech Lead @UdaPeople

Intro

In order to ensure UdaPeople's product's success, it is important to implement a robust and efficient software development process. One key aspect of this process is the use of CI/CD.

What is CI/CD?

CI/CD is a set of practices that enable software developers to build, test, and deploy applications quickly and reliably, improving quality and reducing errors while saving time and money.

How is implemented?

Involves automating the software development process, including version control, continuous integration, automated testing, continuous delivery, and monitoring.

Image (<u>source</u>)

Why does CI/CD matter?

⬡ ***Increased software quality and reliability:*** Through automated testing and deployment, CI/CD helps ensure that code changes are tested and deployed in a consistent and automated way, reducing the risk of bugs and errors.

⬡ ***Faster time to market:*** *CI/CD will enable us to release new features and updates to customers faster and frequently, so is fixing bugs and problems that might arise.*

⬡ ***Improved collaboration and communication:*** CI/CD promotes a culture of continuous testing and feedback, encouraging developers to work together to identify and resolve issues quickly.

Financial Benefits

Tools

- Github for version control

- CircleCI for continuous integration and automated testing

- Ansible for deployment and configuration management

- DataDog, and cloudwatch for logging

- AWS for hosting and infrastructure.

Early stage cost: ~$1000/ month

Benefits

- **Reduced costs**: Automated testing and deployment processes can save time and money compared to manual processes.

- **Increased revenue:** Faster time to market and higher software quality can lead to increased customer satisfaction and sales.

- Reduced hiring need for more **DevOps** team members

- **-$8000/month in HR**

- **20% reduction in development time, a 50% reduction in bug fix time, and a 10% increase in customer satisfaction.**

Next Steps

In conclusion, the implementation of CI/CD in the UdaPeople product development will bring significant benefits to the development process, the final product, and the organization's financial performance.

We are asking for approval and resources to implement CI/CD for the UdaPeople product.

Thanks!