

CI/CD Implementation benefits for UdaPeople Project

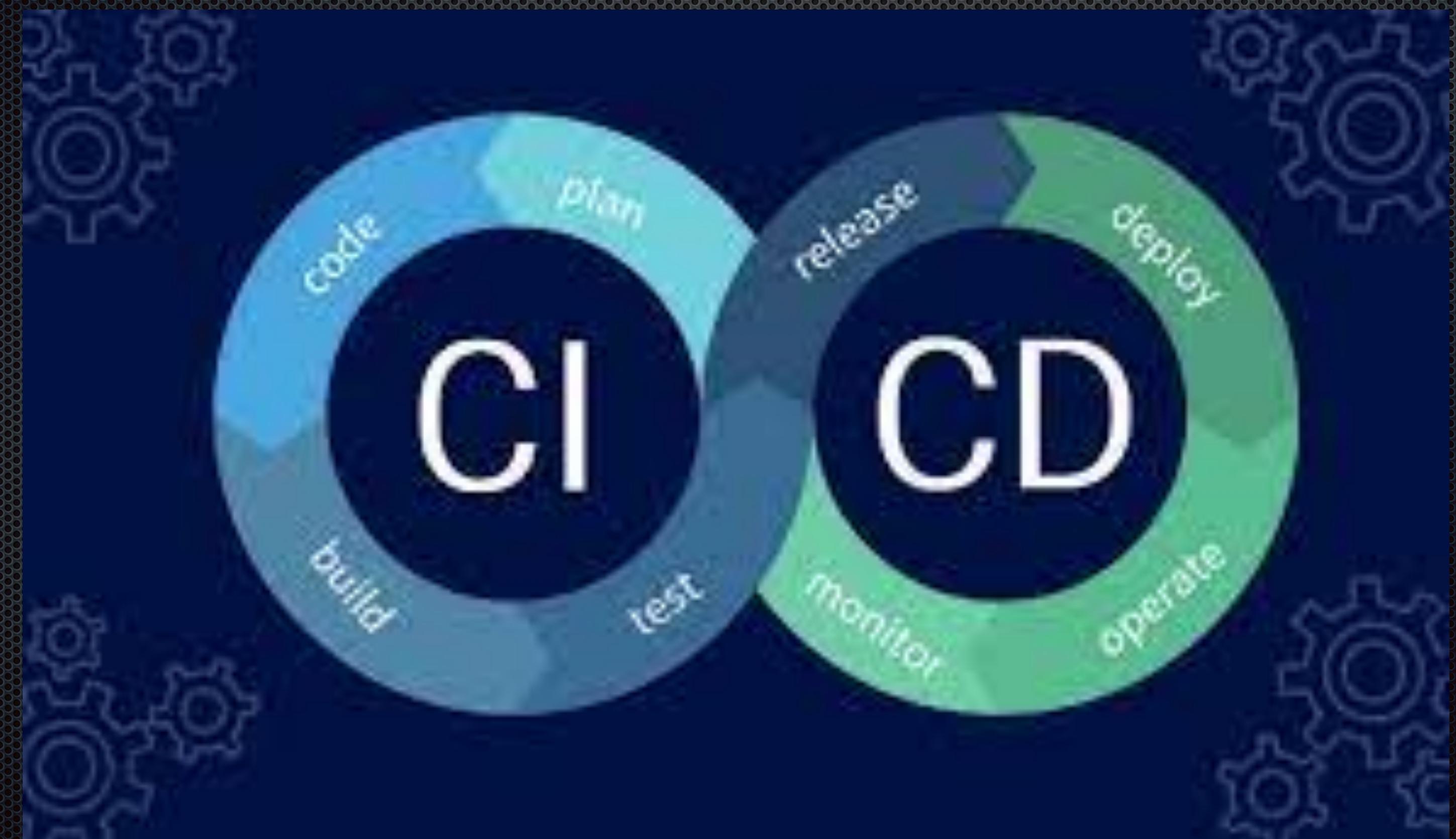
Through this presentation we will discuss the benefits of implementing Continuous Integration / Continuos Deployment for UdaPeople project

Introduction

- We are currently about to start the development of our new product UdaPeople solution, a tool that will provide solutions to help businesses take care of their customers.
- Learning from the challenges faced during the development of previous applications, we are proposing the implementation of Continuous Integration and Continuous Deployment during the development of this application.
- Implementing these practices from the beginning of development will help us improve our processes of construction, testing, quality and delivery to the end user, making faster and easier and cheaper to deploy changes, reducing the effort used in these development phases.

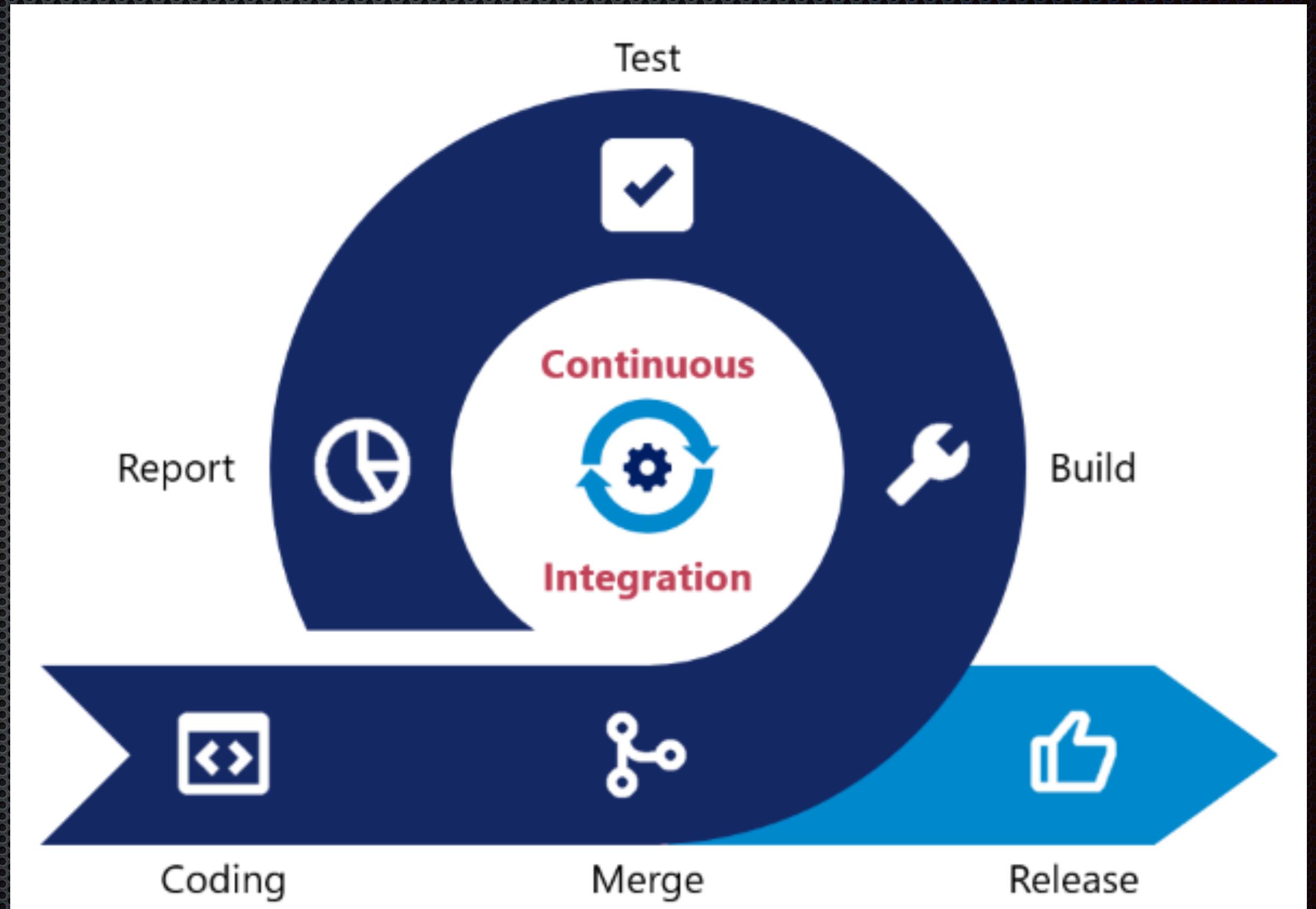
What is Continuous Integration / Continuous Deployment?

- CI / CD is a practice that, together with its respective tools, helps deliver a software product, from its compilation to its deployment to an end user. It is made up of two parts:



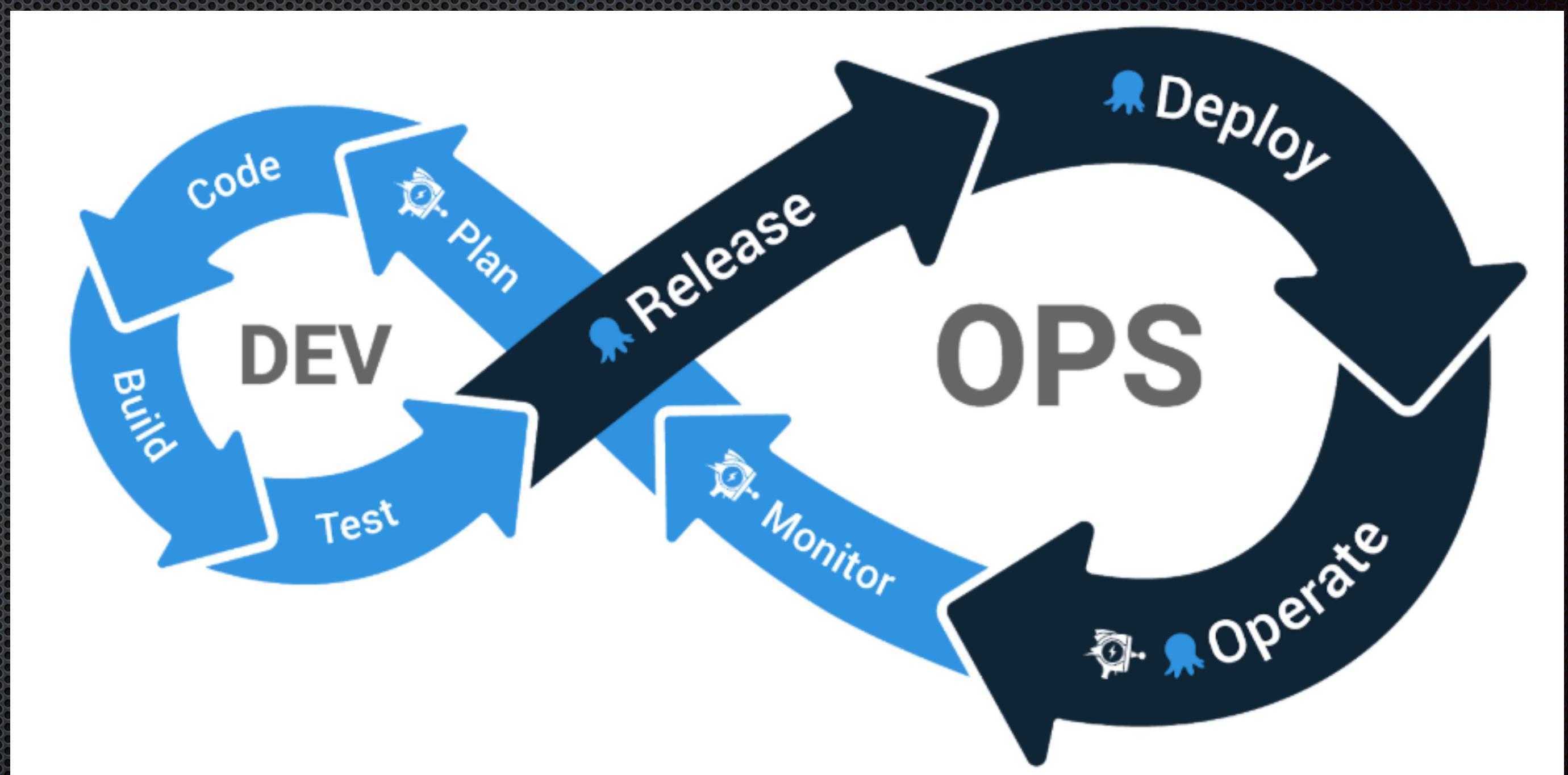
Continuous Integration

- This practice refers to all the steps that are carried out in the construction phase of the product:
 - Versioning and merge code
 - Compile code,
 - Perform unit test,
 - analysis,
 - Dependency vulnerability testing
 - Store product
 - Reports
- By automating all these steps and performing them continuously, we streamline the construction of a high-quality product



Continuous Deployment

- Continuous deployment refers to the part of deliver the product and its updates to customers automatically and continuously, without the need for the intervention of any human resource:
 - Create infrastructure automatically
 - Provision Servers and configure them
 - Deploy the application on the server
 - Run smoke tests
 - Publish or update the application automatically
 - Rollback to previous version in case something went wrong
 - Monitor the behavior, like memory use, service crash, disk space use, etc.



Cost Benefits.

We explained what is CI/CD and how this practices could benefit our development process, but why is important to invest in its implementation?

Benefits

-  Improve resources use technical and human
-  Lower costs
-  Reduce Human Error
-  Reduce product delivery Time
-  Automatized Tests
-  Automatized Cleanup and server creation



Cost

-  Wrong provisioning of servers is very expensive
-  Lots of manual work that can lead to errors
-  Misuse of human resources, because they are assigned to time wasting tasks
-  Slower product delivery to our users

In Summary

- The benefits of investment in the implementation of CI/CD practice, surpass the cost,
- Certainly, investment on licenses for the training of the personal, and on the tools we will require like: **Github**, **CircleCi**, or **Prometheus**, are no cheap.
- but the cost that will have using our current methodology can lead to wrong and costly server infrastructure, human errors, errors on product deployment, misuse of resources, all this will affect our reliability towards our users.