

Udapeople App using CI/CD

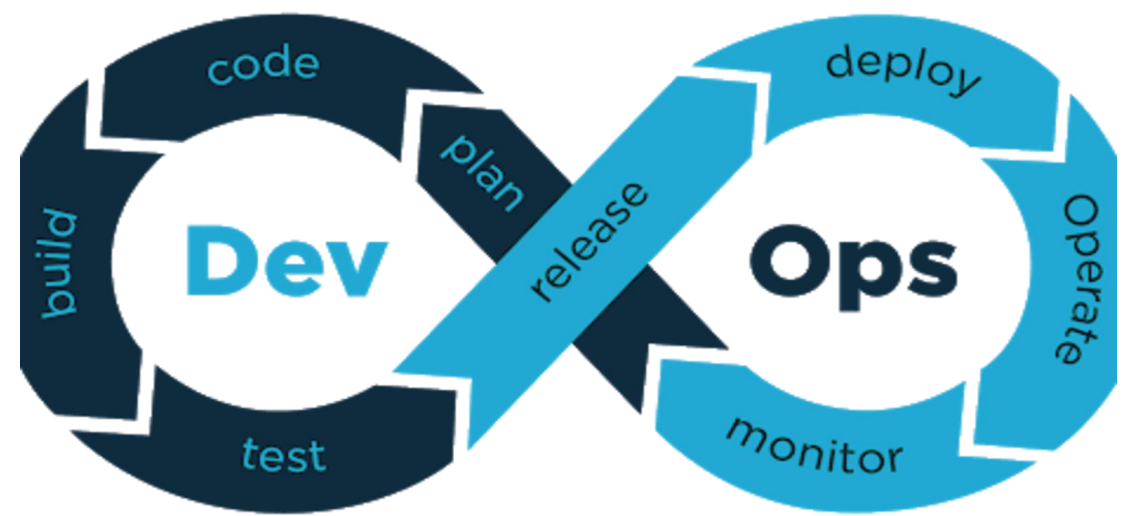


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Agenda:

1. CI/CD approach
2. Advantages of CI/CD
3. CI/CD Tools used in Udapeople App

CI/CD Approach



In the udacity app, our development and operation team works closely in delivering project. Here the whole project will be divided into smaller portions, and those will be developed and deployed using continuous integration and continuous deployment (CI-CD) tools.

As shown in the below diagram, it is a continuous process from planning of the module to, developing the code, building the code, performing the unit tests, releasing the code and deploying into the production and monitoring it in production.

Advantages of CI/CD Pipeline

1. **Less time to Market :** Any small upgrade, bug fix or new features can be implemented quickly will increase the profit for the organization
2. **Less human error and accurate:** As it uses CI/CD tool for automation of testing and deployments, one can expect less human error and more accurate test result, this leads to less operation expenses
3. **Expect collaborative:** By using version control tool like Git, its easy for developers to collaboration and work for the same release with different sub tasks.This reduce the conflicts within the team.
4. **Reliable platform :** By using the tools like Docker can provide the small packages of the code, which run as platform independent, this promotes the smooth deployment from dev and production without infrastructure burden
5. **Easy to scale:** Using tool like ansible, all the infrastructure configuration will be covered as code and it can be deployed to multiple server at once. This reduces the significance manual effort and quicker deliveries
6. **Continous work flow from develop to deploy :** Using tool like CircleCi, we can build the complete pipeline as in when we commit the code, it will deploy , perform the tests and release to production

Tools used in CI/CD platform

- **Git** : Code repository
- **Circle CI** : Running automatic deployment
- **Ansible and Aws Cloud formation** : To writing infrastructure as code
- **Prometheus** : For monitoring of the infrastructure
- **Docker Container**: which containers the application, its depend packages and libraries.