



INTRODUCING CI/CD

UDAPEOPLE

What is CI/CD?

- CI/CD entails the concept of continuous delivery by employing the principles of Continuous Integration and Continuous Deployment
- Continuous integration focuses on integrating work from individual developers multiple times a day to catch integration errors early and accelerate collaborative development. This leads to cost minimization while saving time on development of new features
- Continuous deployment means automatically deploying each time a code change is made.
- Continuous Delivery is concerned with reducing friction in the deployment or release process, automating the steps required to deploy a build so that code can be released safely at any time.

Do we need it?

- Experts have calculated the global impact of IT failure as being around \$3 trillion annually.
- Costs of IT and revenue spent on IT globally is steadily on the rise, and greater than 20% of organizations annual IT budget does not produce any end value for the consumer.
- Failure takes many forms, including non-completion, inability to release, failure to effectively address business needs, cost overruns and missed timelines.
- Therefore, the first measurable value of CI/CD pipelines is that they reduce the risk and cost of IT failure by producing better code and well-targeted, highly available products and systems while minimizing the risk of failures and downtime.

Why CI/CD

- The process of continuous integration creates a steady, fast, efficient workflow, a synchronization of all developers efforts without the regular hitches that could come with merging various contributions on the development process
- Continuous delivery focuses on automating the delivery process, cutting time and resources that would have been consumed. This also means features get rolled out much quicker
- Continuous deployment entails an automation of the deployment process. This includes carrying out smoke tests, quality tests and clearing a deployment for release. This cuts cost, ensures a seamless delivery of features and bug fixes and means companies can benefit from the early feedback

How would CI/CD benefit us?

- Early and efficient testing means bugs can't escaped into production saving cost on both testing and any costs that a bug can cause on release.
- Automated rollback upon failure means that bugs don't get to affect the eventual users, saving whatever revenue could be lost by a widespread release blackout
- Auto-detection of security vulnerabilities protect customer info, increases consumer confidence and protects us from "Corporate Embarrassment"
- The removal of bugs and steady and frequent delivery of great new features increases customer confidence and therefore, a more robust user base