

Fundamentals and benefits of CI/CD

This document outlines the fundamentals and benefits of CI/CD to achieve, build, and deploy automation for cloud-based software products.

CI/CD is the new age software development and delivery practice. It solves the problem of:

- Manual build and tests
- Complications involved with integrating multiple modules developed by various developers.
- Integration-related errors.
- Deployment and delivery-related errors.
- Longer time to deliver the software.

Benefits:

- Builds and testing are automated. Pipeline fails for the right reason, and early failure helps detect/resolve the problem if any.
- Deployment is triggered as soon as the build and tests are passed.
- Continuous integration of various modules is also automatic.
- Infrastructure is created and configured using the IaC, ensuring the desired state without any human error.
- Production and development environments can both leverage the CI/CD pipeline. However, only the prod environment will deliver the software.
- Delivery is quick and without errors.

Cost:

- Cost for the CircleCI platform credits.
- Cost for the AWS cloud platform, specific services, such as CloudFormation.

The additional investment (CI/CD) can be compensated against the cost of the manual build, test, deploy, and delivery errors. Most importantly, we can deliver the “expected” software updates quickly and frequently. It’s all about Happy Customers.