CI/CD Presentation

Why your process should be continuous.

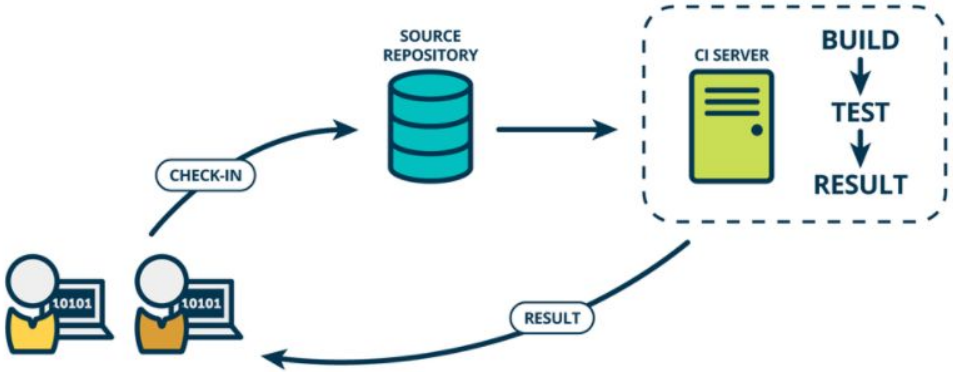
Content Table

Introduction

The most common source of errors in the work environment is man, especially if their work is repeatable. Therefore, every task a machine can do should be. It helps to significantly reduce the number of errors and frees human resources.

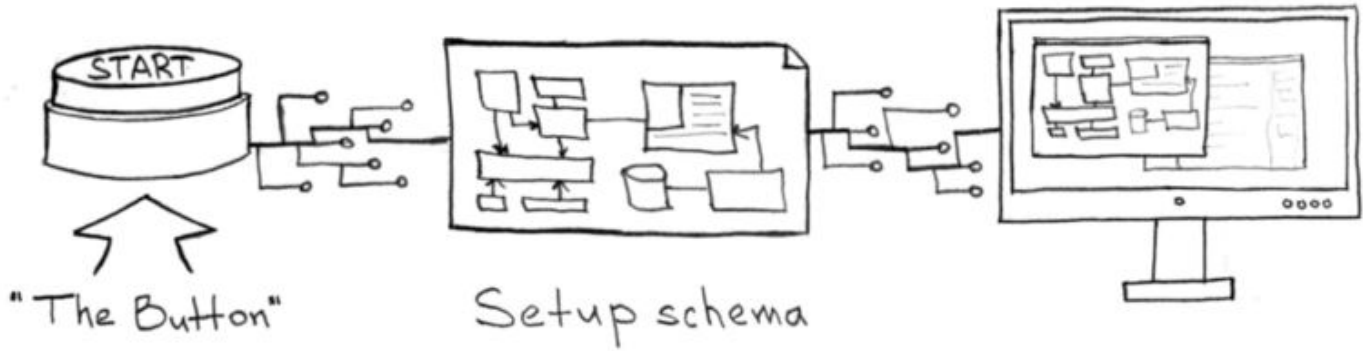
What is Continuous Integration?

Continuous integration puts a great emphasis on testing automation to check that the application is not broken whenever new commits are integrated into the main branch. So it is a process of continually adding source-codes to an already tested source-code working in production.



What is Continuous Delivery?

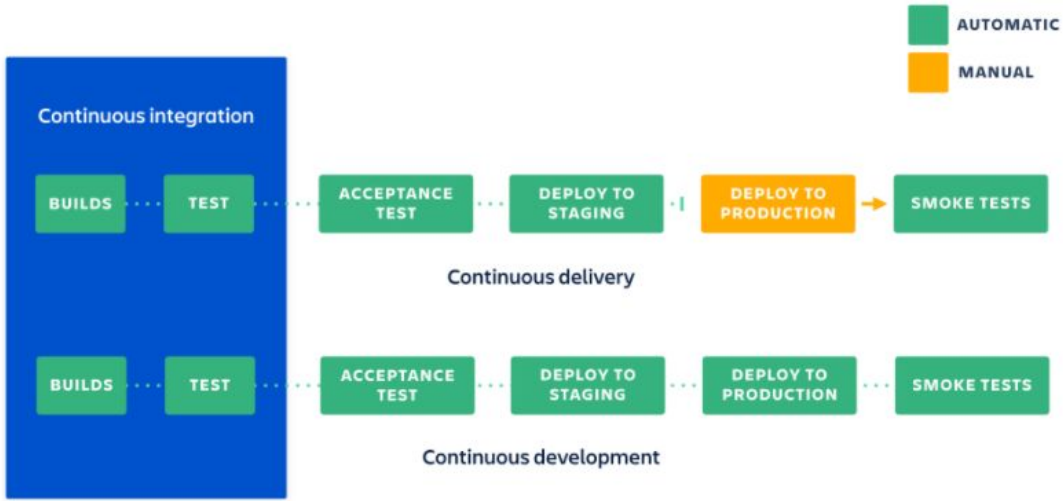
Continuous delivery is the next set of processes after continuous integration. Continuous Delivery ensures that the code is ready and can be delivered at any time. It is the deployment of infrastructures needed by the integrated source-code from Continuous Integration.



What is Continuous Deployment?

Continuous deployment is the automatic or manual integration of tested and built commits to production, where it is reachable to the users. It very similar to Continuous delivery, the only difference is that continuous delivery require manual deployment (or more specifically approval).

The main purpose of CD is to release automatically every good build to the users.



Benefits of implementing CI/CD in projects

Continuous Integration:

1. Detecting bug in early stage - the earlier bug is detected, the less harm it makes
2. Reduces bug count.
3. The development process becomes more transparent - teams are notified when build fails and what caused it.
4. Efficient - since whole process is automated, manual testing is reduced.

Continuous Delivery & Deployment:

1. Reduce the risk - deployment process may get complicated. It can consist of many steps. The more complicated the process, the greater the probability of human error. By automating this process we can assure, that every deployment will look similar.
2. Painless deployment, happier team.
3. Reduces costs.
4. A fully automated and transparent process.
5. Releases may happened more frequently.

Cost of implementing CI/CD

CI / CD is an investment and as each investment has its own costs that are worth knowing before implementing this process.

Continuous Integration costs:

- Team needs to write automated tests.
- Server for automated tests.
- Developers need to merge their changes as often as possible.

Continuous Delivery & Deployment - Costs

- Strong foundations in CI process.
- Testing culture must be at its best. CD process require the highest quality of tests.
- Documentation needs to be updated frequently to keep up after deployments.
- The whole process requires knowledge and requires an experience, otherwise it can cause more problems than benefits.