CI/CD Concepts and Advantages

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Continuous Integration

or just the CI as it is known, is a software development practice in which you **compile and test software** whenever a developer sends code to the application, and it happens several times a day.

Cl is the first step to spread the DevOps culture in your team and the **beginning to achieve Continuous Delivery**

Continuous Deployment

Is an extension of continuous integration, with the aim of **minimizing the time** between the development of a new feature and its use in production.

It consists of a **set of practices that automate the infrastructure**and software delivery. In case of
errors, the entire infrastructure can
be destroyed without much effort

Continuous Delivery

Continuous Delivery is what we call a **series of practices designed to ensure that the code can be deployed quickly and safely** in production, providing all changes in a work environment and ensuring that business applications and services work as expected through **rigorous automated testing**.

It aims to deliver software faster and safer through short circles

Why is CI / CD so important?

- The software development process becomes more solid and reliable with CI / CD.
- The source code is **tested frequently** and reports with
 possible improvements are
 made available by tools
 (example, SonarQube)
- The deployment is automated and less susceptible to human errors

- Communication
 between the business
 team and the
 development team
 becomes better
- Last but not least,
 developers can focus their
 attention on development
 and the business team has
 less wasted resources

Why not try it?

The benefits of implementing CI / CD are enormous for the development and business team. The savings in financial and computational resources are remarkable, same for the code quality and the final software delivered.