CI/CD

What? Why? How?

What is Continuous Integration (CI/CD)?

- Continuous Integration is the practice of integrating code into a shared repository and building/testing each change automatically, as early as possible - usually several times a day.

- Continuous Delivery adds that the software can be released to production at any time, often by automatically pushing changes to a staging system.

- Continuous Deployment goes further and pushes changes to production automatically.

Why is Continuous Integration (CI/CD)?

CI:

- Detects errors ASAP:
    - Fix while fresh in your mind
- Reduce integration problems
    - Smaller problems are easier to digest
    - Don't compound problems
- Allows teams to develop faster, with more confidence

CD:

- Ensures that every change to the system is releasable.
- Lowers risk of each release - makes releases "boring".
- Delivers value more frequently.
- Get fast feedback on what users care about.

Why do we need to implement CI/CD at Udapeople?

- **It takes two people and almost a day to make a monthly release.**
- **Confidence level often is very low after a release.**
- **Majority of production bugs are related to misconfigured infrastructure.**

How to implement CI/CD at Udapeople?

- [ ] Start pushing code to Github
- [ ] Integration the codebase with the CI/CD tools such as CircleCi, Gitlab.
- [ ] Create a configuration that describes the desired workflow.