

UDAPEOPLE CI/CD PROPOSAL

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OVERVIEW

1. CI/CD explained
2. Our Current Painpoints
3. Benefits of CI/CD
4. Challenges of Adopting CI/CD

CI/CD EXPLAINED

CI/CD consist of Continuous Integration(CI) and Continuous Delivery/Deployment (CD)

Continuous Integration

Continuous Integration (CI) describes the process of automating the merging of code from the different development branches to the main branch several times a day.

It also focuses on test automation to ensure that software has very little to no bugs and errors and then generates a high quality artifact (like an executable file) that can be deployed.

CI/CD EXPLAINED CONT'D

Continuous Delivery

Continuous Delivery helps us to push changes to our software products quickly to our customers at any time in an automated way.

Continuous Deployment

Continuous Deployment extends Continuous Delivery in such a way that it allows frequent automated deployments without any human interaction.

Typical phases in Continuous Deployment are Provisioning the Infrastructure, Running Smoke Tests, Running Deployments and Automated Rollbacks.

OUR CURRENT PAINPOINTS

1. Our manual release process is error-prone and often leads to delays during production deployments
2. We don't have time to run quality analysis and tests which often leads to poor quality software
3. Our deployments are quite complex and involve a lot of custom scripts. Our deployments also currently don't include rollback and smoke testing mechanisms.

CI/CD BENEFITS

Problem Statement:

(1) Manual and error-prone release process and (2) poor software quality

Solution:

- ▶ Implement Continuous Integration for automated building, testing, code analysis
- ▶ Implement Automated Infrastructure Creation with Continuous Delivery.

Benefits:

Cost reduction due to less human errors and faster deployments

Reduce complexity

CI/CD BENEFITS CONT'D

Problem Statement:

Complex deployments and handcrafted scripts which often fail and missing smoke tests and rollback mechanisms.

Solutions:

Implement Continuous Deployment to automate the manual deployment steps for smoke tests and rollbacks, and the infrastructure provisioning.

Benefits:

- ▶ Reliable, repeatable deployments which will reduce the need for relying on a few people with extensive knowledge on the whole process.
- ▶ Automated Smoke Tests and Rollbacks will protect revenue due to reduced downtimes
- ▶ from deployment-related crashes and fast and automated rebuilding of production ready software.

CHALLENGES OF ADOPTING CI/CD

Establishing CI/CD will require a high amount of initial cost and learning.

Delivering CI/CD pipelines is continuous effort not a one time job and will require constant support and improvement.

CONCLUSION

Even with these challenges, CI/CD will improve our overall business processes and dramatically reduce costs in the long run.

The background features a dark blue-grey field on the left, transitioning into a series of overlapping, semi-transparent green and yellow-green geometric shapes on the right. These shapes are primarily triangles and polygons, creating a layered, abstract effect.

THANK YOU!