

UDAPEOPLE

CI/CD BENEFITS PROPOSAL

OVERVIEW

1. What does CI/CD stand for? The concepts explained
2. What are our current pain points?
3. CI/CD to the rescue. How we could benefit from DevOps principles
4. What are the challenges we will be confronted with?

1. WHAT DOES CI/CD STAND FOR? THE CONCEPTS EXPLAINED

CI/CD consist of three major concepts:

- Continuous Integration : Continuous Integration describes the process of merging developer branches to the main branch several times a day.
- Continuous Delivery : makes sure that changes of a software product can be released quickly to customers in an automated way and at any point in time.
- Continuous Deployment : Continuous Deployment extends Continuous Delivery in such a way that it allows frequent automated deployments without any human interaction.

2. WHAT ARE OUR CURRENT PAIN POINTS?

CI/CD consist of three major concepts:

- *Our manual release process is error-prone and always leads to delays of production deployments*
- *This in turn often leads to poor software quality since we don't have time for quality*

analysis anymore

- Deployments are pretty complex. Only a chosen few experts are able to understand the whole process and tons of hand crafted helper scripts. No smoke tests and rollback mechanisms.

2. CI/CD TO THE RESCUE. HOW WE COULD BENEFIT FROM DEVOPS PRINCIPLES?

Problem: *Manual and error-prone release process and poor software quality.*

Solution:

- *Implement Continuous Integration: automate compiling, testing, code analysis and artifact storage*
- *Automate Infrastructure Creation*

Benefits:

- Cost reduce, less human errors, fast deployment
- Reduce troubleshooting time

3. CI/CD TO THE RESCUE. HOW WE COULD BENEFIT FROM DEVOPS PRINCIPLES?

Problem Statement: Complex deployments and handcrafted automation which often fail. Missing

smoke tests and rollback mechanisms.

Solutions:

- Automate today's manual deployment steps for smoke tests and rollbacks
- Add automated infrastructure provisioning

Benefits:

- Regressions and breaking changes in code as well as in infrastructure deployments can be found

much quicker and can be resolved for the whole automation process.

- Automated Smoke Tests and Rollbacks will protect project revenue due to reduced downtimes from

deploy-related crashes and fast and automated rebuilding of production ready state

4.WHAT ARE THE CHALLENGES WE WILL BE CONFRONTED WITH?

- Establishing CI/CD comes with a high amount of initial cost and learning.
- Delivering CI/CD pipelines is not a one time effort, but requires constant support and maintenance as well as continuous development and improvement.

- Even though there are some challenges, CI/CD will improve overall business processes

and dramatically reduce costs on the long run.