

# 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. CI handles everything that has to do with code.
- Continuous Delivery: ensures that software product changes can be rapidly released to customers automatically and at any time.
- Continuous Deployment: Continuous Deployment extends Continuous Delivery in a way that 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 results in delayed production rollouts.*
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- The implementation is quite complicated. Only a select few experts can understand the entire process and a lot of the help scripts are created manually. No smoke testing and recovery mechanism.

## **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:

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

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

Problem Statement: Complex deployments and manual automation often fail. Lack of smoke testing and rollback mechanism.

Solutions:

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

Benefits:

- Regressions and breaking changes can be found in code and in infrastructure deployments much faster and can be resolved for the entire automation process.
- Automated Smoke Tests and Rollbacks will protect project revenue by reducing downtime from deployment-related issues and rebuilding to production-ready status quickly and automatically

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

- Setting up CI/CD comes with a high initial cost and learning curve.
- Delivering CI/CD processes is not a one-time effort but requires ongoing support and maintenance as well as continuous development and improvement.
- Despite some challenges, CI/CD will improve overall business processes and significantly reduce costs in the long run.