Udapeople
Benefits of CI/CD

Overview

- What is CI/CD stand for

- Continuous integration goals

- Effects of CI/CD On Development

- Effects of CI/CD On Cost

- What are the challenges

What is CI/CD stand for

- Continuous Integration

- The practice of merging all developers' working copies to a shared mainline several times a day. It's the process of "Making". Everything related to the code fits here, and it all culminates in the ultimate goal of CI: a high quality.

- Continuous Delivery

- A software engineering approach in which the value is delivered frequently through automated deployments. Everything related to deploying the artifact fits here. It's the process of "Moving" the artifact from the shelf to the spotlight.

Continuous integration goals

1. Automatically kick off a new release when new code is checked in

2. Build and test code in a consistent, repeatable environment

3. Continually have an artifact ready for deployment

4. Continually close feedback loop when build fails

Effects of CI/CD On Development rate

Deployment frequency	Weekly – monthly ➡	Hourly – daily
Change lead time	One – six months ➡	One – seven days
Change failure rate	46 - 60% ➡	0 - 15%

Effects of CI/CD on Cost

CI/CD pipelines permit teams to automate builds, tests and merges into a shared repository.

This significantly reduces the chances of human error that may occur in the repetitive stages of development.

Additionally, developers can focus more on product development as the codebase is likely to require fewer changes in the future if errors are caught quickly.

Effects of CI/CD on Cost

CI/CD Make Revenue:

Faster and More Frequent Production Deployments ensures more quicker releases. Removal of manual checks before deployment means less time to the market.

CI/CD Avoid High cost:

CICD Helps us to detect security vulnerabilities Which may cases embarrassing or costly security Holes which may effect on revenue

WHAT ARE THE CHALLENGES

- Establishing CI/CD comes with a high amount of initial cost and learning. At first sight this might seem overwhelming compared to current best practices

- Delivering CI/CD pipelines is not a one time effort, but requires constant support and maintenance as well as continuous development and improvement