CI/CD - Udapeople

Overview

► CI/CD is a method to frequently deliver apps to customers by introducing automation into the stages of app development. The main concepts attributed to CI/CD are continuous integration, continuous delivery, and continuous deployment. CI/CD is a solution to the problems integrating new code can cause for development and operations teams.

What is CI/CD?

- Continuous Integration
  - The practice of merging all developers' working copies to a shared mainline several times a day.

- Continuous Deployment
  - A software engineering approach in which the value is delivered frequently through automated deployments

Automation

- The automation in testing and deployment in CI/CD not only makes the workflow smoother for developers but also cuts costs significantly. Since the process involves automated testing of smaller pieces, issues are detected early enough to be rectified without waiting until the end.

Benefits

- Catch Compile Errors After Merge
  - Less developer time on issues from new developer code
- Catch Unit Test Failures
  - Less bugs in production and less time in testing
- Detect Security Vulnerabilities
  - Prevent embarrassing or costly security holes
- Automate Infrastructure Creation
  - Less human error, Faster deployments
- Faster and More Frequent Production Deployments
  - New value-generating features released more quickly
- Automated Smoke Tests
  - Reduced downtime from a deploy-related crash or major bug