



# **Fundamentals and Benefits of CI/CD**

## Overview

### 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, deployable artifact!

### Continuous Deployment

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

# Benefits of CICD

- ▶ 1- Automate Infrastructure Creation and clean up: Eliminating human errors and avoid unnecessary cost of unused or invalid infrastructure
- ▶ 2- Faster to production: By automating the pipeline to production this way we can deploy features as soon as created which will help increase revenue

# Benefits of CICD

- ▶ 3-Automated Smoke Tests: Automate smoke test after deployment and automatic rollback in case of failure which will decrease downtime and reduce cost
- ▶ 4- Catch Unit Test Failures: Unit tests are not neglected with CICD which will increase code quality and catch errors early before production which would decrease cost