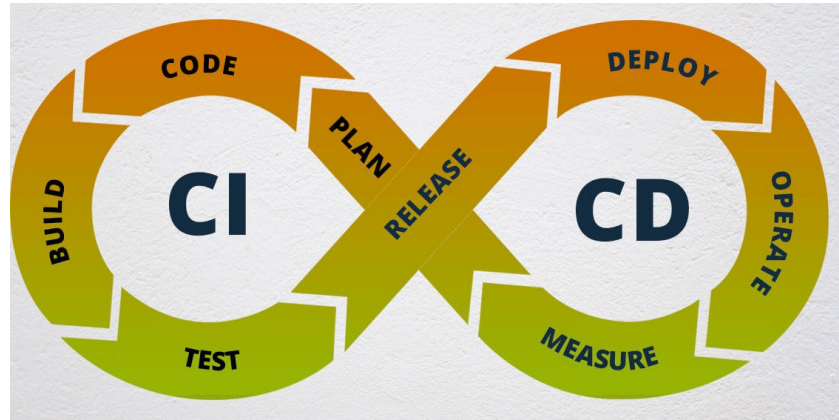# CI/CD

Continuous Integration and Continuous Deployment

What is CI/CD

1. CI: Continuous Integration
2. CD: Continuous Deployment

1. 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! Some common CI-related phases might include:
    - Compile
    - Unit Test
    - Static Analysis
    - Dependency vulnerability testing
    - Store artifact

2. 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. Some common CD-related phases might include:
    - Creating infrastructure
    - Provisioning servers
    - Copying files
    - Promoting to production
    - Smoke Testing (aka Verify)
    - Rollbacks

Benefits of CI/CD

- Reduce Cost
- Avoid Cost
- Increase Revenue
- Protect Revenue

CI/CD Tools

- Jenkins
- Gitlab
- CircleCI
- VSTS(Microsoft)
- …