CI/CD

THE AUTOMATION AGE

WHAT IS CICD?

CICD stands for continuous integration and continuous deployment

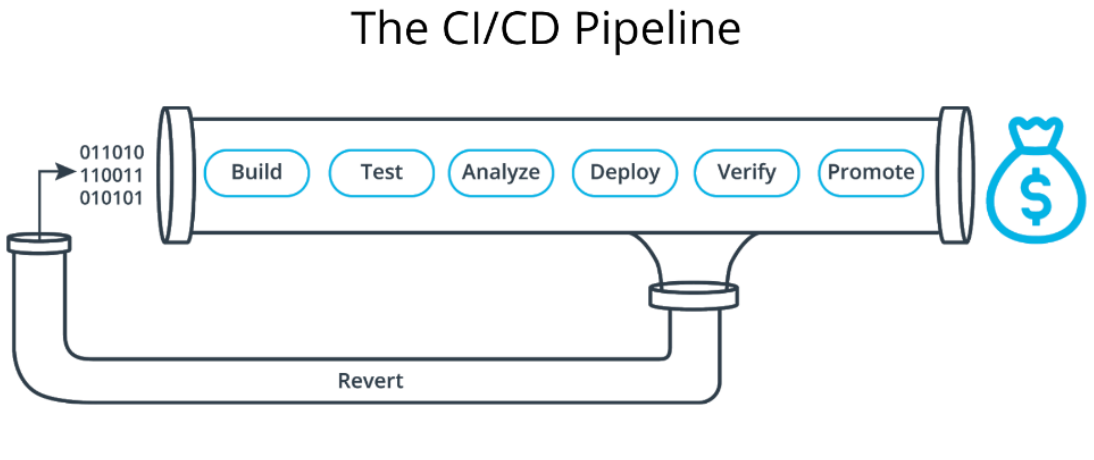
Fundamentals of ci:

- Compile
- Unit Test
- Static Analysis ,etc.

Fundamentals of cd:

- Creating infrastructure
- Provisioning servers
- Copying files ,etc.

Continuous Integration + Continuous Deployment = Continuous Delivery



BENEFITS OF CICD

1- cost deduction Using a CI/CD pipeline limits the potential impact and loss that a deployment problem can cause by allowing it to be deployed in non-critical business hours. Also, repeated automated deployments during the development phase help developers catch the errors early before causing any significant damage.

2- Detect Security Vulnerabilities this will avoid cost

3- Automated Tests this will protect revenue

4- reduce risk because Finding and fixing bugs late in the development process is expensive and time-consuming. This is especially true when there are issues with features that have already been released to production.

5- make easier and automated rollback and this is One of the biggest advantages of a CI/CD pipeline is you can roll back changes quickly. If any new code changes break the production application, you can immediately return the application to its previous state.and this will protect revenue

THERE ARE A LOT OF METRICS THAT SHOW HEALTH OF PIPELINE AND AFFECT COST REDUCTION LIKE:

1- Failed Pipeline Cost and it Shows the estimated amount of money spent on a failed build.

2- Time to Failure and it Shows how quickly we find failures. The lower the better because if we make it fail early, we will reduce costs and it will automatically rollback to previous version