CI/CD FUNDAMENTALS AND BENEFITS

WHY USE IT?

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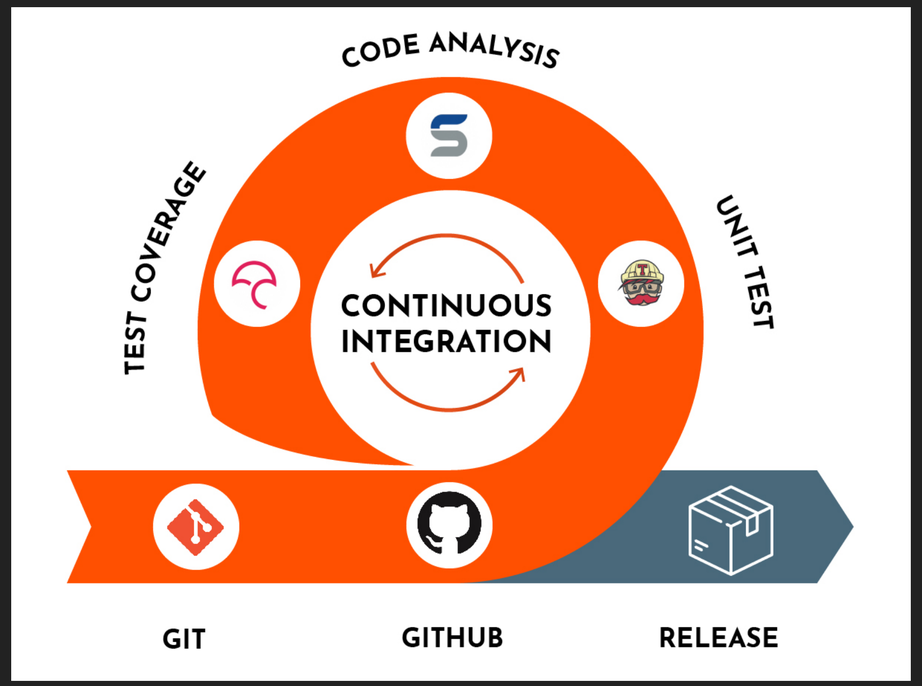
WHAT IS CI/CD?

CI/CD is the combined practices of:

- Continuous Integration
- Continuous Delivery
- Continuous Development

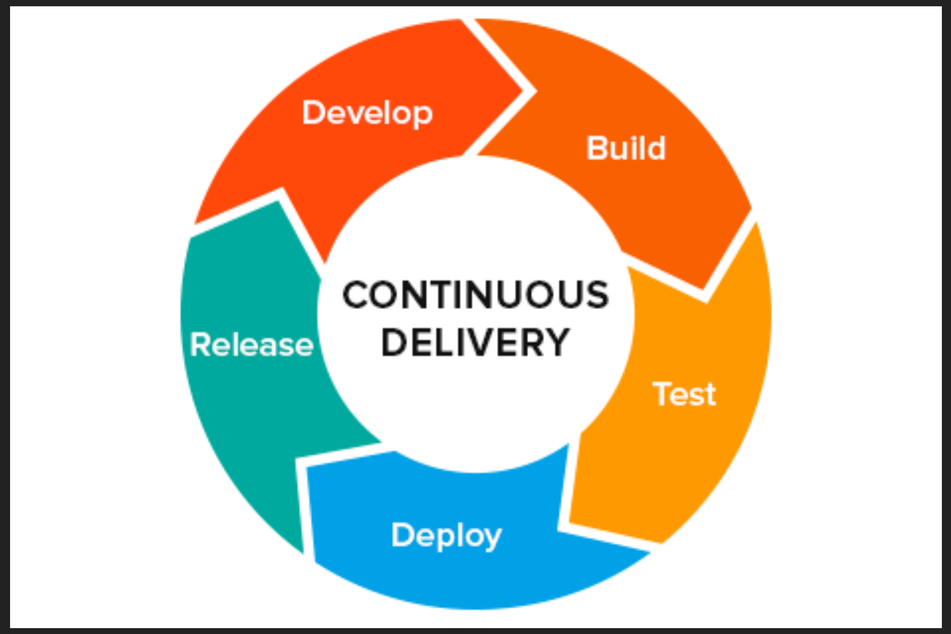
CONTINUOUS INTEGRATION

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



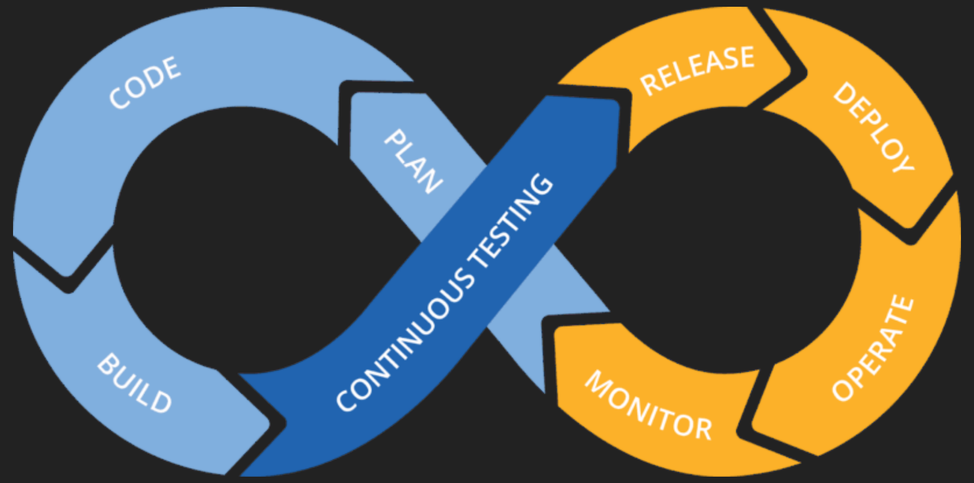
CONTINUOUS DELIVERY

- It is a software engineering approach in which teams produce software in short cycles



CONTINUOUS DEVELOPMENT

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



CI/CD FUNDAMENTALS

- DevOps: Set of practices that combines software development and IT operations
- Pipeline: Logical queue filled with the instructions for the computer processor to process in parallel
- Infrastructure as Code: Management of infrastructure using code
- Provisioning: Steps required to manage access to data and resources
- Testing: Steps for ensuring software quality

CI/CD BENEFITS (WHY USE CI/CD?)

- Reduce Risk: Less bugs and less testing
- Faster Delivery: Teams can build, test and deploy features automatically with almost no manual intervention using various tools
- Extensive logs Generation: Extensive logging information generated in each stage of the development
- Easier Rollbacks: One of the biggest advantages of a CI/CD pipeline is you can roll back changes quickly.

CI/CD BEST PRACTICES

- Fail Fast: Revealing failures as fast as possible using CI/CD pipeline
- Measure Quality: To check positive impact of your work improvement
- Only Road to Prod: CI/CD must be the only deployment way to prevent inevitable failure
- Max Automation: if it can be automated, automate it!
- Config in code: All configuration code must be versioned and in code