Introduction to CI/CD Pipelines

Backbone of Modern Development

PRESENTATION BY :-
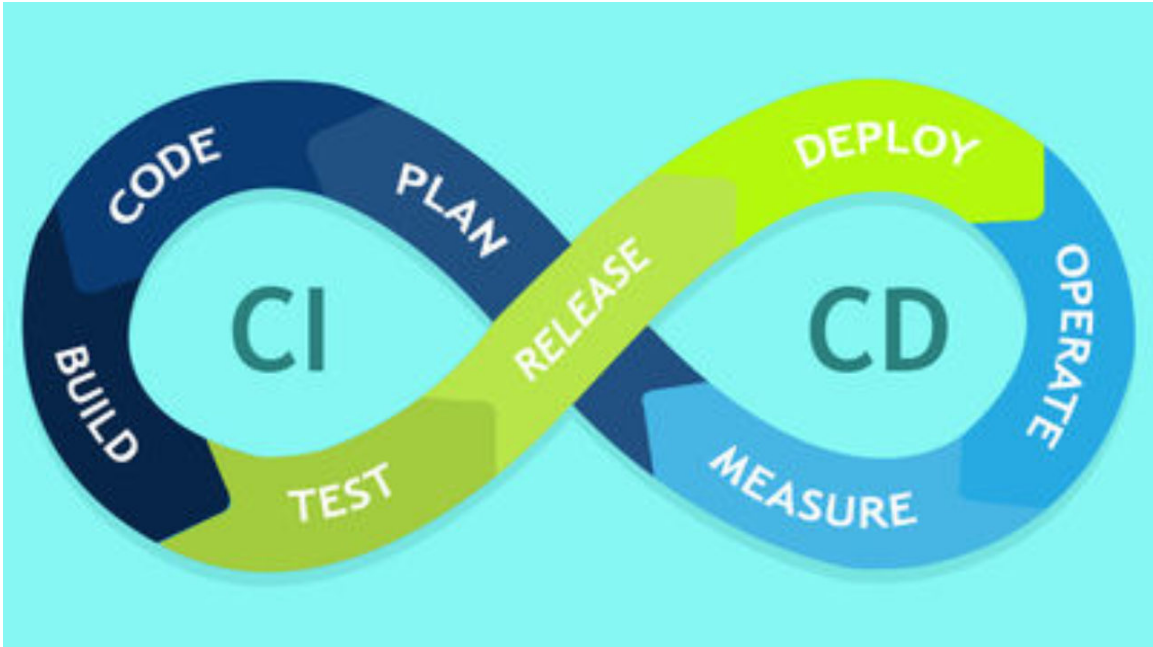
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What is CI/CD?

Continuous Integration (CI) is a development practice that helps ensure that software components work together. CI allows you to continuously integrate code into a single shared and easy to access repository.
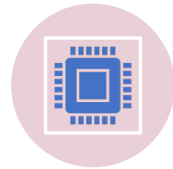
Continuous Delivery (CD) is the ability to deploy your integrated code into production without the need of human intervention. CD allows you to take the code stored in the repository and continuously delivery it to production.
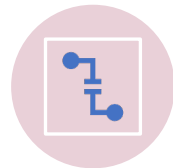
Why Automate / Use CI/CD ?

Reduce costs: Using automation in the CI/CD pipeline helps reduce the number of errors that can take place in the many repetitive steps of CI and CD. Hence, reduces cost by up to 70%.

Smaller code changes: One technical advantage of CI and CD is that it allows you to integrate small pieces of code at one time. This helps developers to recognize a problem before too much work is completed afterward.

Faster release rate: Failures are detected faster and as such, can be repaired faster, leading to increasing release rates.

Fault isolations: Designing your system with CI/CD ensures that fault isolations are faster to detect and easier to implement.

More test reliability: Using CI/CD, test reliability improves due to the bite-site and specific changes introduced to the system, allowing for more accurate positive and negative tests to be conducted.

Improvement in Collaboration and Quality: It bridges the gap between development and operations teams.

Conclusion

- CI/CD is an integral part of software development and deployment process. It can be beneficial for small teams as well as large enterprises. It helps in doing regular changes, getting feedbacks and doing secured deployments. The benefits associated with CI/CD doesn't limit to only the businesses but also impact the other stakeholders, like product owners, dev and ops teams and the end users.

- With automation, businesses will be able to invest more time in building products and features rather than engaging in the same repetitive tasks.

- Therefore, CI/CD methodology helps in building and improving the applications with faster time to market and better user experience.