IMPLEMENTING CI/CD
FOR UDAPEOPLE

WHAT IS CI/CD

Continuous Integration (CI) involves automatically integrating code changes from different developers into a shared repository, followed by automated testing to detect issues early. CI ensures that code changes are consistently built and tested, reducing the likelihood of integration problems.

Continuous Deployment (CD) extends CI by automating the deployment of code changes to production environments. CD ensures that the latest code is always ready for deployment, reducing manual intervention and the risk of human errors during deployment

BENEFITS OF USING CI/CD

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Faster Development and Deployment:

- CI/CD automation streamlines the software development and release process, reducing the time it takes to go from code changes to deployment.

- Faster deployments mean that new features, bug fixes, and improvements can be delivered to users more quickly, increasing the development team's agility.

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Higher Code Quality:

- CI/CD encourages regular integration of code changes, leading to early detection of integration issues and bugs.

- Automated testing and code analysis tools can help maintain high code quality and prevent regressions.

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Reduced Manual Errors:

- Automation of build, test, and deployment processes reduces the likelihood of human errors that can occur during manual steps.

- This improves overall system stability and reliability.

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Rapid Feedback:

- Developers receive rapid feedback on the quality and functionality of their code.

- Early detection of issues allows for quick remediation and reduces the cost of fixing problems later in the development cycle.

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Reduced Deployment Risk:

- With CI/CD, deployments are automated and occur more frequently. Smaller changes are deployed, which reduces the risk associated with deploying large, complex changes.
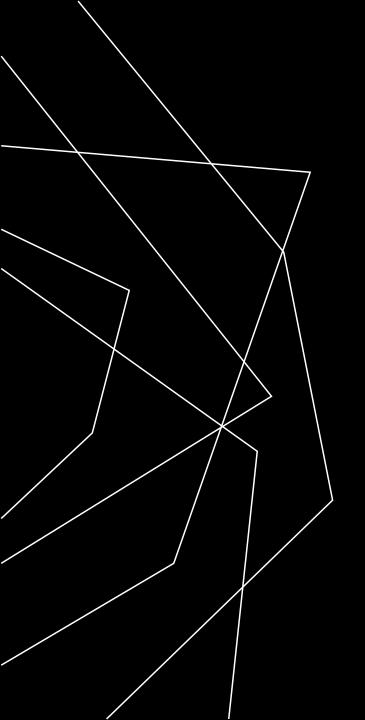
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Cost Efficiency:

- While there may be an upfront investment in setting up CI/CD pipelines, the long-term benefits often lead to cost savings.

- Reduced debugging and manual testing efforts can translate into lower development and maintenance costs.

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Compliance and Security:

- CI/CD pipelines can include automated security scans and compliance checks, ensuring that security and regulatory requirements are met with every deployment.

THANK YOU