CICD PIPELINES

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AGENDA

- What is CICD? And WHY ?
- Tools
- Best practices

WHAT IS CD ?

- Stands for continuous delivery and also could be deployment
- It means that uploading the artifact to a remote server and being run and available for the production side and viewed by the customer
- Automatic and fast rollback in case of anything goes down or unexpected

WHAT IS CICD ?

Continuous Integration is a practice of integrating code from the multiple source code into a central artifact like image, jar files, npm pkgs .. etc

Continuous Integration can contain multiple phases like unit testing and quality checks for the code, checking security vulnerabilities and upload the artifact to a remote registry

Automating these processes and avoid human interaction in the building phases will lead to a faster and maintable phases

WHY?

- **Reduce Costs** Automation in the CI/CD pipeline reduces the number of errors that can take place in the many repetitive steps of CI and CD. Also known as fail as soon as possible. Doing so also frees up developer time that could be spent on product development as there aren't as many code changes to fix down the road if the error is caught quickly

WHY?

- **Decrease human errors** reducing risk when delivering software. This reduction is due to the continuous testing of the software to catch any errors, bugs, and more, allowing more reliable software to be sent to the public.
- **USE IAAC**: also know as infrastructure as code. Using cloudformation ensure that environments like testing and dev are stable across iterations

TECHNICAL BENEFITS

- Fault Isolations
- More Test Reliability. Using CI/CD, test reliability improves due to the bite-size and specific changes introduced to the system
- Higher revenue since it fix the error so much faster and Fail As soon as possible
- Avoid running apps with high costs if it well not working
- Fast alerting and notifying in case of failure