CI/CD

Continuous Integration Continuous Deployment

Overview

Continuous Integration

- The practice of merging all developers' working copies to a shared mainline several times a day.
- It's the process of "Making". Everything related to the code fits here, and it all culminates in the ultimate goal of CI: a high quality, deployable artifact!

Continuous Deployment

- A software engineering approach in which the value is delivered frequently through automated deployments.
- Everything related to deploying the artifact fits here. It's the process of "Moving" the artifact from the shelf to the spotlight

Benefits of CICD

1. **Automate Infrastructure Creation and clean up:**
   Eliminating human errors and avoid unnecessary cost of unused or invalid infrastructure

2. **Faster to production:**
   By automating the pipeline to production this way we can deploy features as soon as created which will help increase revenue

3. **Automated Rollback Triggered by Job Failure:**
   Automate the process of rolling back and cleaning any infrastructure left which would help in reducing cost and lower down time

Benefits of CICD

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Catch Compile Errors After Merge:

Discover errors as soon as the developer make his commit which will help reduce the time of developers and reduce cost

5

Catch Unit Test Failures:

Unit tests are not neglected with CICD which will increase code quality and catch errors early before production which would decrease cost

6

Automated Smoke Tests:

Automate smoke test after deployment and automatic rollback in case of failure which will decrease downtime and reduce cost