CI/CD

Continuous Integration & Continuous Deployement

WHY WE NEED IT?

WHAT IS CI/CD ?

- 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.*

WHY WE NEED CI/CD ?

- Automate Infrastructure Creation and Clean

  Reduced human error, accelerated deployments, and minimized infrastructure costs due to unused resources, pay as you go.

- *Fast Deploy to Production without manual checks*

  Accelerated and more frequent production deployments, automated production deployment checks, faster release of value-generating features, reduced time to market.

- Automated Rollback Triggered by Job Failure

  Rapid undo capability for restoring production to a functioning state.

WHY WE NEED CI/CD ?

- Automated Smoke Tests

  Reduced developer time spent on troubleshooting issues caused by new developer code.

- Catch Unit Test Failures

  Reduced number of bugs in production and decreased testing time.

- Catch Compile Errors After Merge

  Reduced developer effort required to address issues arising from new developer code.