CONTINUOUS INTEGRATION, CONTINUOUS DEPLOYMENT (CI-CD)

USING CI-CD TO ACHIEVE, BUILD AND AUTOMATE PRODUCT LIFECYCLE

OVERVIEW OF CI-CD

- Continuous Integration
  - Continuous Integration (CI) is a development practice where developers integrate code into a shared repository frequently, preferably several times a day. Each integration can then be verified by an automated build and automated tests.

  - Some of the steps involved in continuous integrations are: compiling, testing, running static analysis, checking for security vulnerabilities and storing the artifacts.

OVERVIEW OF CI-CD

- Continuous Deployment
  - Continuous deployment is a strategy or methodology for software releases where any new code update or change that makes it through the rigorous automated test process is deployed directly into the live production environment where it will be visible to customers.

  - Everything concerning the deployment of built artifacts happens in deployment. It is the process of moving built artifact from a repository to live or testing environment.

  - Some steps involved are: infrastructure setup, provisioning servers, moving artifacts, smoke test, promoting of deployment artifacts to production environment and possible rollback.

BENEFITS OF CI-CD

- 01 – Faster Deployment Cycles: By automating how products are managed, we can deploy features faster, gain early market entry and higher revenue.

- 02 – Automate Infrastructure Management: human errors is eliminated, unnecessary and hidden costs caused by inefficient usage of infrastructure is removed.

- 03 – Short Time to recover from failures: with automated deployment, we can quickly rollback and remove all unused resources thereby reducing cost and down time.

BENEFITS OF CI-CD

- 04 – Automated Tests: Tests such as: unit tests, integration tests can be automated thereby increasing code quality and catching errors before artifacts are deployment to production thereby reducing costs, keeping customers and stakeholders happy.

- 05 – Automated Alerts: Alerts can be integrated as part of the CI-CD pipeline that alerts whenever something goes wrong so that issues can be quickly identified and fixed.