Benefit of Implementing CI/CD

What is CI/CD

CI/CD is a method to frequently deliver apps to customers by introducing automation into the stages of app development.
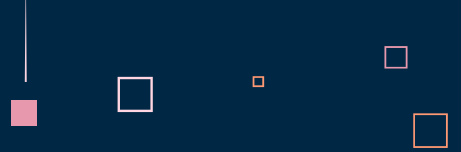
The main concepts attributed to CI/CD are continuous integration, continuous delivery, and continuous deployment.

Continuous Integration

Continuous integration is a DevOps software development practice where developers regularly merge their code changes into a central repository, after which automated builds and tests are run.

The key goals of continuous integration is to find and address bugs quicker, improve software quality, and reduce the time it takes to validate and release new software updates.

Continuous Delivery

Continuous delivery is a software development practice where code changes are automatically prepared for a release to production, continuous delivery expands upon continuous integration by deploying all code changes to a testing environment and/or a production environment after the build stage.

Continuous delivery lets developers automate testing beyond just unit tests so they can verify application updates across multiple dimensions before deploying to customers.

CI/CD Benefit

Reduce / Avoid cost

- Automation of infrastructure creation:

> -less human error, grab unit test failure to make sure no bugs in production environment
> -detect security vulnerabilities and prevent security attacks

-Automation of infrastructure cleanup:

- -stop unwanted cost and unused resources

Make/Protect Revenuse

-Frequent and fast production deployments :
      -ensures quick releases
      -no manual checks mean less time to market

-Automate smoke test:
      -reduces downtime ,crashes
      -automate rollback due to job failure, ensures fast recover to
        working state