CI/CD PROPOSAL

What is Continuous Integration

Continuous integration (CI) is the practice of automating the integration of code changes from multiple contributors into a single software project. Continuous integration covers the process of multiple developers attempting to merge their code changes with the main code repository of a project.

What is Continuous Delivery

Continuous delivery is the next extension of continuous integration. The delivery phase is responsible for packaging an artifact together to be delivered to end-users. This phase runs automated building tools to generate this artifact. This build phase is kept 'green,' which means that the artifact should be ready to deploy to users at any given time.

What is Continuous Deployment

Continuous deployment is the final phase of the pipeline. The deployment phase is responsible for automatically launching and distributing the software artifact to end-users. At deployment time, the artifact has successfully passed the integration and delivery phases. Now it is time to automatically deploy or distribute the artifact. This will happen through scripts or tools that automatically move the artifact to public servers or to another mechanism of distribution, like an app store.

Why is Continuous Integration Needed?

In the past, developers on a team might work in isolation for an extended period of time and only merge their changes to the master branch once their work was completed. This made merging code changes difficult and time-consuming, and also resulted in bugs accumulating for a long time without correction. These factors made it harder to deliver updates to customers quickly.

Benefits of CI/CD Adoption

1. Enable scaling
2. Enables quick time to market
3. Improved feedback loop
4. Reduced downtime
5. Improved developer productivity
6. Less bug gets to production