



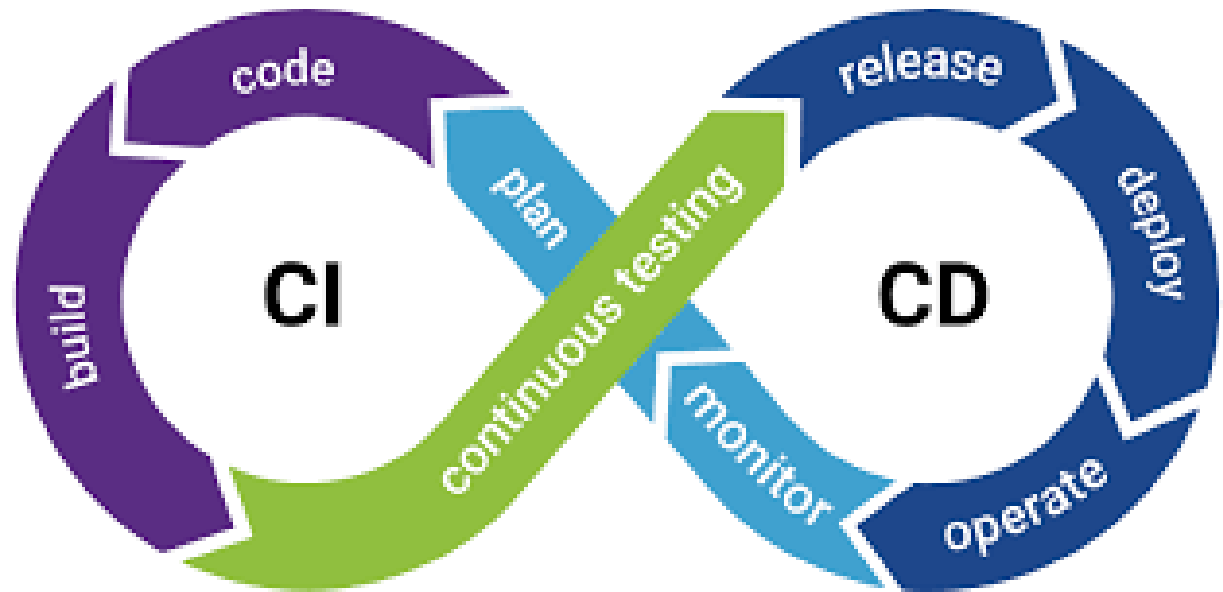
# CI/CD - Transforming The SDLC

An overview of CI/CD and the benefits of making the transition

# What is CI/CD

CI/CD or Continuous Integration and Continuous Delivery, is a DevOps practice that automates some parts or the entirety of the of activities involved in moving new code from commit to production or green state. CI/CD can also be configured to provision infrastructure.

When CI/CD IS properly implemented, changes made by developers pass through a pipeline that automatically builds, tests analyzes and pushes out the build to delivery. All of these come together to standardize activities, speed up development time and ultimately save resources.

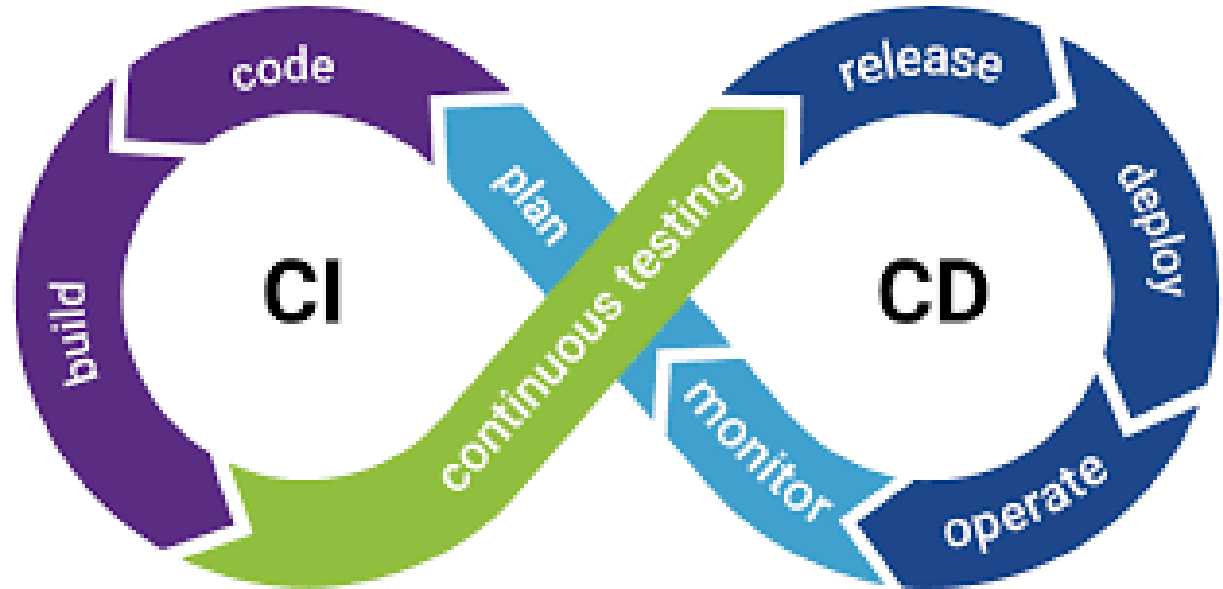


# Continuous Integration (CI)

Continuous Integration allows teams to quickly and regularly integrate their code updates into the main branch of their common code repository. These code updates trigger automatic tests and builds in the pipeline.

Continuous Integration makes identifying and fixing errors, security issues and problems easier and faster

Even with multiple developers working on the same project, the chances of code conflict is significantly reduced, thanks to CI

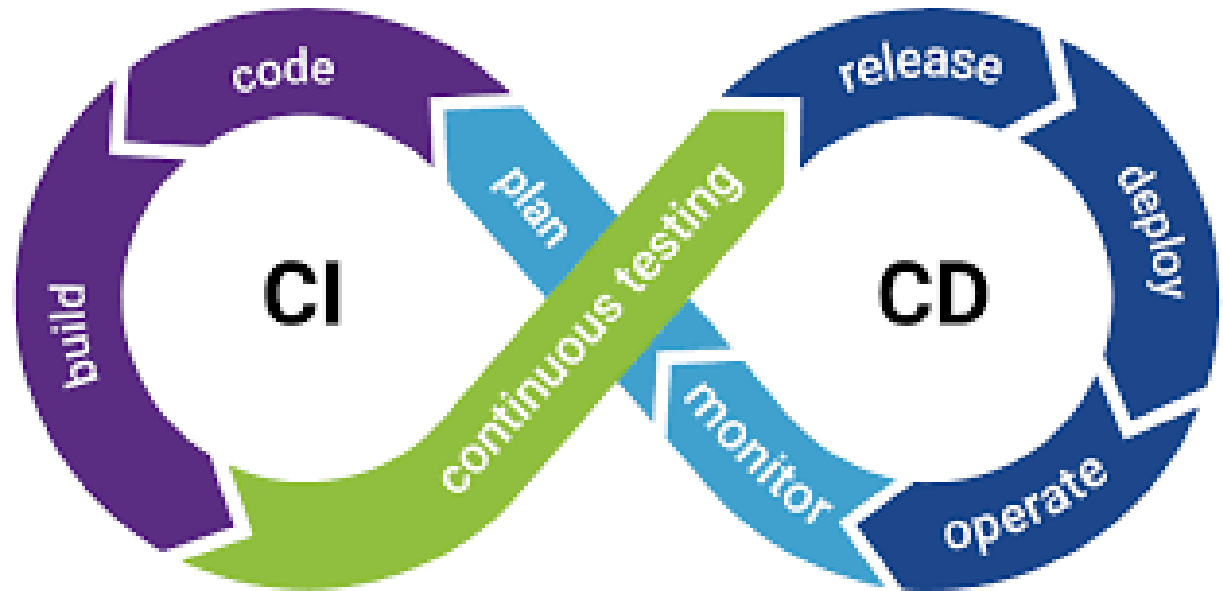


# Continuous Delivery (CD)

Continuous Delivery automates the infrastructure delivery and software release activities.

The Continuous Delivery phase is triggered once the commit has successfully passed the testing and build phase. It ensures that the build is deployable in the test or production environment.

With continuous delivery, you can configure your pipeline to automatically deploy your changes or make the deployment to production or test a manual step.



# Benefits of CI/CD

1. **Faster and More Regular Deployments:** With new features updates reaching the consumer sooner, the company can focus on improvements and adding more features, thereby making happy end users and increasing revenue.
2. **Detect Security Vulnerabilities:** The average cost of security breach according to a 2020 report was \$8.6 million. A properly set CI/CD process can greatly mitigate the chances of such breaches occurring
3. **Saves Time:** With CI/CD, the time spent on testing and validating code is significantly reduced. This means less resources are tied down and developer morale is improved. This has the benefit of saving cost and improving productivity
4. **Faster Recovery:** Time and money is saved because the development team can fix errors easier or simply rollback the update automatically

