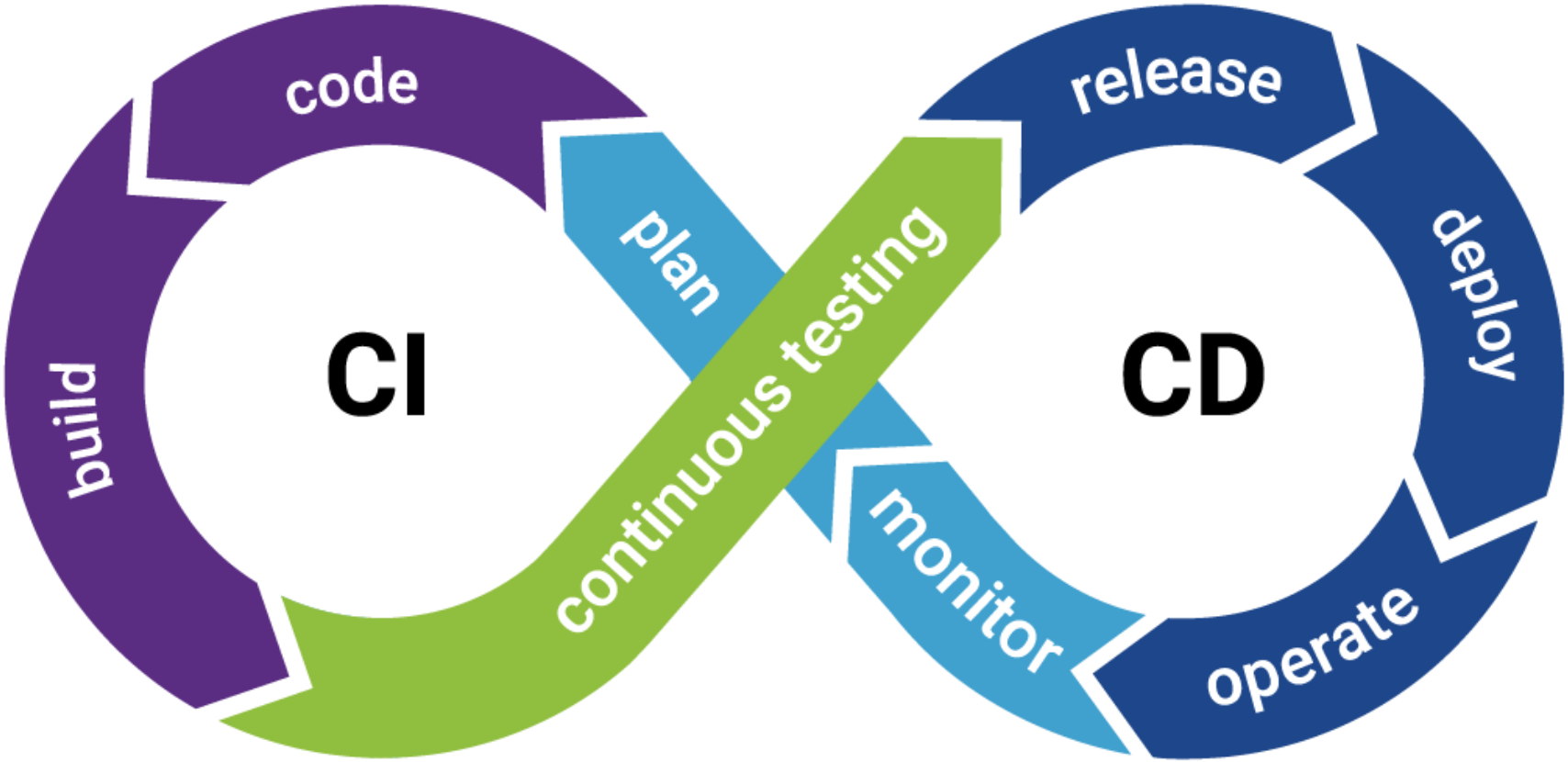
code
build
CI
plan
continuous testing
monitor
release
deploy
CD
operate

WHAT IS CI/CD

CI/CD is a terminology which stands for Continuous Integration and continuous Deployment.

Continuous Integration (CI) is the process of testing and change made to your development flow and this is do automatically, we all know how important testing is in our industry and a process is a frequent thing, it is prone to human error, with CI involved, it is done automatically, which helps completely remove human error, and safe time.

Continuous Delivery (CD): Continuous delivery and deployment is an approach where teams release quality products frequently and predictably from source code repository (*Where the code written are stored*) to production(*when it is ready for users to consume*) in an automated fashion.

THE PROBLEM CI/CD SOLVES

1. One major problem it solves is integration of new features to an existing product without breaking what was already working. (AKA, integration hell)

2. The time it takes for manual testing

THE BENEFITS OF CI/CD

1. **SPEED**: Teams that practice DevOps release deliverables more frequently, with higher quality and stability. In fact, the DORA 2019 State of DevOps report found that elite teams deploy 208 times more frequently and 106 times faster than low-performing teams. Continuous delivery allows teams to build, test, and deliver software with automated tools. **With this, we get to save time and reduce cost**

2. **RAPID DEVELOPEMT**: By increasing the frequency and velocity of releases, DevOps teams improve products rapidly. A competitive advantage can be gained by quickly

releasing new features and repairing bugs. **With our product released frequently, we can generate more revenue.**

3. **QUALITY AND RELIABILITY**: Practices like continuous integration and continuous delivery ensure changes are functional and safe, which improves the quality of a software product. Monitoring helps teams keep informed of performance in real-time. **This helps us reduce cost**

4. **SECURITY:** By integrating security into a continuous integration, continuous delivery, and continuous deployment pipeline, DevSecOps is an active, integrated part of the development process. Security is built into the product by integrating active security audits and security testing into agile development and DevOps workflows. **This keeps us in control of our product**

Other Benefits Includes

- Less bugs in production and less time in testing which helps avoid cost
- Less developer time on issues during collaboration which reduce cost.
- Less human error, Faster deployments
- Less infrastructure costs from unused resources (Save cost again)
- Less time to market (We get Competitive edge)
- Reduced downtime from a deploy-related crash or major bug
- And even when a disaster occurs, we can Quickly roll back to return production to working state, which will protect our revenue (We are still in control)