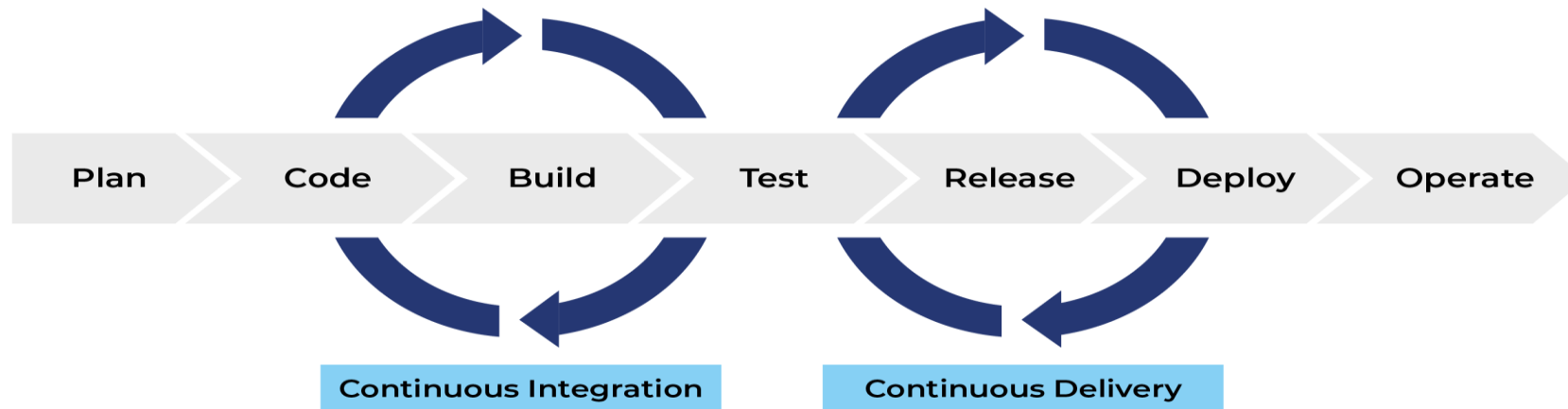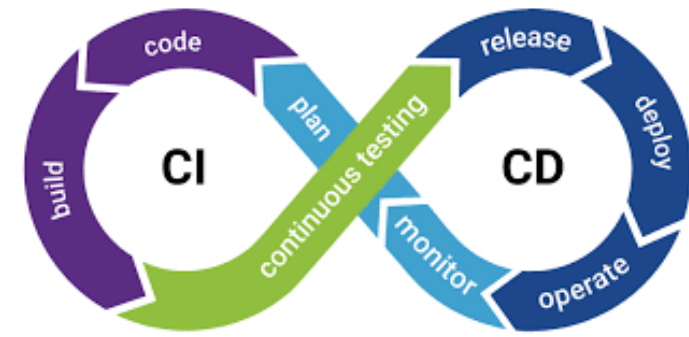# Benefits Of CI/CD

Definition:

Continuous integration and continuous deployment (CI/CD) is a set of ideas, processes, and capabilities that enables software changes to be delivered to users in a timely, repeatable, and secure manner by introducing automation into software development processes.

Benefits Of CI/CD

1. Higher efficiency

CI/CD should automate your process includes deploying code to development, testing, and production environments and entering multiple commands across several domains. It is one of the leading advantages of a CI/CD.
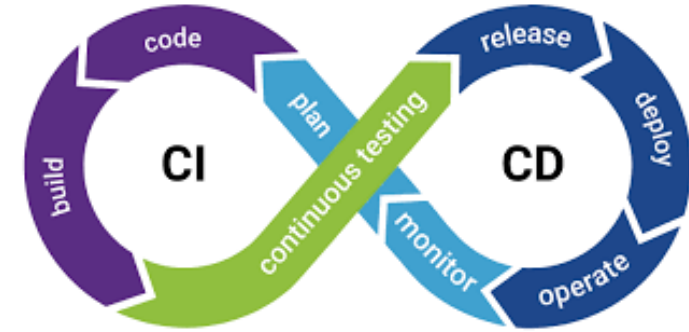
2. Reduced risk of defects

Finding and resolving defects late in the development process is costly and time-consuming. This is particularly true when problems arise with features already released to production.

You can test and deploy code more frequently using a CI/CD pipeline, giving QA engineers the power to identify and fix errors as soon as they occur. This way, you're effectively mitigating risks in real-time.

3. Faster product delivery

We can automatically build, test, and deliver features with minimal manual intervention. So it become really fast.

Benefits Of CI/CD

4. Quick rollback

One of the most exclusive benefits of a CI/CD pipeline is that it leads to the quick and easy rollback of code changes if there are any issues in the production environment after a release. If any new code change breaks a feature or general application, you can revert to its previous stable version right away. You can deploy the most recent successful build instantly to avoid production interruptions.

5. Better planning

A CI/CD pipeline enables organizations to accomplish this by ensuring that they have a well–organized surplus of items and a continuous line of communication with clients.

6. Easy Maintenance and Updates

Maintenance and updates are a crucial part of making a great product. However, it's important to note within a CI/CD process to perform maintenance during downtime periods, also known as the non-critical hour. Don't take the system down during peak traffic times to update code changes.

7. Cost-effectiveness

Automation in the CI/CD pipeline reduces the number of errors that can take place in the many repetitive steps of CI and CD. Doing so also frees up developer time that could be spent on product development as there aren't as many code changes to fix down the road if the error is caught quickly.