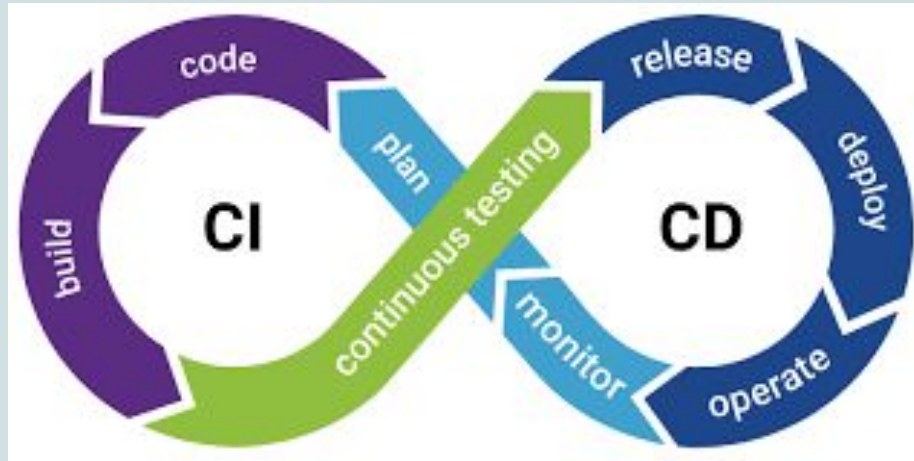


CI/CD Benefits and challenges



What is CI/CD?

-Continuous Integration:

Focus on merging multiple developers' work branches into a main branch. This allows for rapid development.

-Continuous Delivery:

Focus is repeatable and reliable processes, in which everything that can be automated is, and where the entire team is held to account because everything is visible to everyone else.

-Continuous Deployment:

Automates deployment of software from test to production. Including automating infrastructure (as code), automated security testing, deployments and rollbacks.

CI/CD contrasted with the old way of doing things

Manual and siloed development processes

Manual and unrepeatable processes leading to unreliable delivery

Testing on the fly

Security tests (if we have time)

Late night deployments and emergency rollbacks

...It's easy to see the benefits of using CI/CD but what are the challenges of adopting it?

The CI/CD deployment pipeline

An example CI/CD pipeline:



Feedback at every step allows for quick course correction

CI/CD Benefits

Eliminating the manual “boring” work to focus on what’s important, developing and delivering high quality deliverables to the customer in a timely manner

Repeatable and automated processes reduce or eliminate human error

Automated testing and security scans

Scalable and re-creatable server infrastructure

Quick, reliable rollbacks

CI/CD Challenges

- Culture change from focus on individual deliverables to a more collaborative effort
- Blurring boundaries in job responsibilities between development and operations
- “Bringing out the pain”: exposing weaknesses in team and current processes
- Deciding among the multitude of tools to use
- Steep learning curve in adopting new tools and processes