Continuous Integration and Continuous Deployment

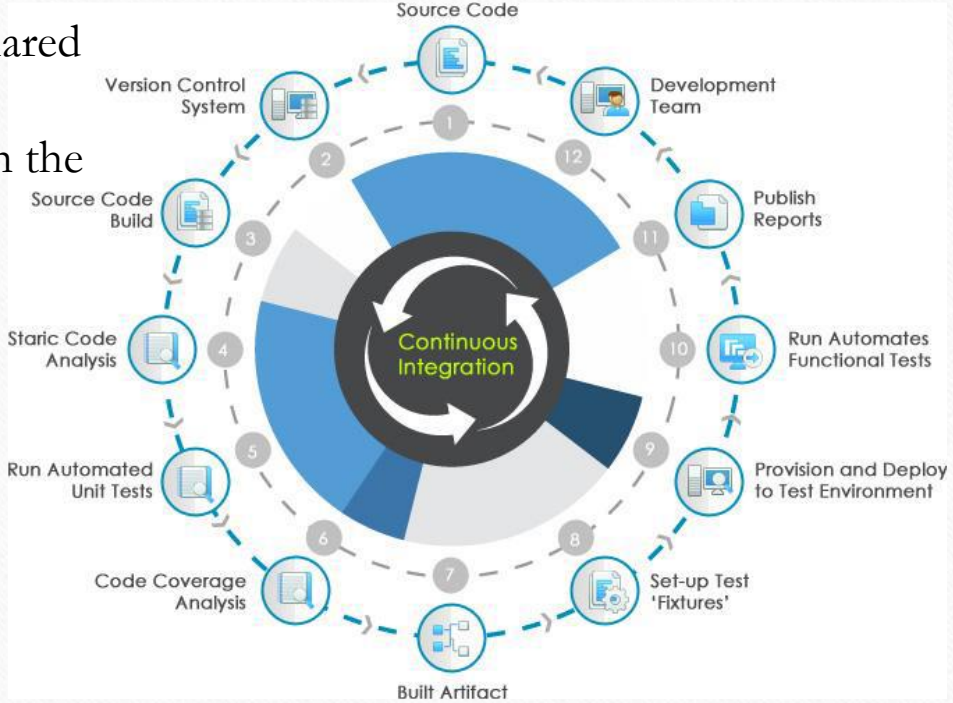
Fundamentals and benefits of CI/CD to achieve, build, and deploy automation for cloud

based software products.

Continuous Integration (CI)

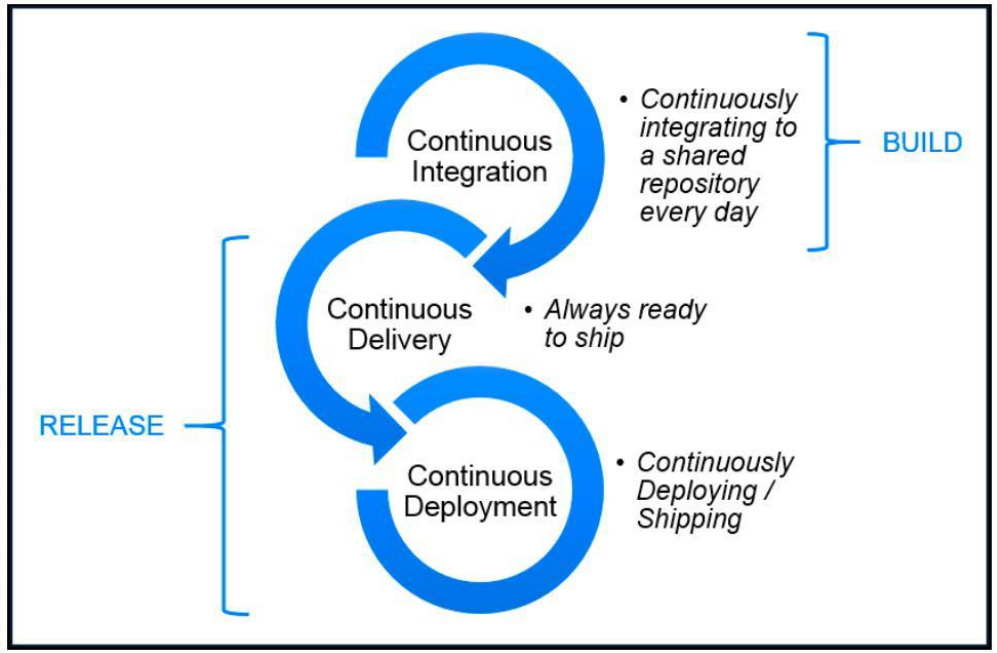
The practice of merging all developers' working copies to a shared mainline several times a day. It's the process of "Making". Everything related to the code fits here, and it all culminates in the ultimate goal of CI: a high quality, deployable artifact! Some common CI related phases might include:

- Compile
- Unit Test
- Static Analysis
- Dependency vulnerability testing
- Store artifact



Continuous Deployment (CD)

- A software engineering approach in which the value is delivered frequently through automated
- deployments. Everything related to deploying the artifact fits here. It's the process of "Moving"
- the artifact from the shelf to the spotlight. Some common CD related phases might include:
- • Creating infrastructure
- • Provisioning servers
- • Copying files
- • Promoting to production
- • Smoke Testing (aka Verify)
- • Rollbacks



Benefits of CI/CD

- 1. Increase revenue – value-generating features released more quickly
- 2. Protect revenue – reduced downtime from a deploy-related crash or bug
- 3. Reduce cost – less time spent on issues from new developer code
- 4. Avoid cost – less bugs in production and less time in testing