Lab Assignment 3 CMT

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TASK 3

Continuous Integration/Delivery/Deployment

The main difference that sets these three apart is in the scope of automation applied.

Practicing "Continous Integration", the developers want to merge their code to the main branch as often as possible trying to avoid conflicts in the code, build and run automated tests on the build which are then commissioned manually when if the tests have been successful.

"Continuous Delivery" builds on the previous concept by automating the deployment step in addition to testing. If testing is successful, the entire deployment process can be run by the push of one button since that process also is automated. The goal is that any dev with sufficient privileges to deploy a release can do so at any time in a couple of button strokes. By eliminating close to all manual tasks, devs can be much more productive.

"Continuous Deployment" is in turn an extension of "Continuous Delivery" where each build that has passed testing, also gets deployed automagically.
The goal here is to keep the code in a ready deployable state at any given time, using smaller sprints allow for quick bug identification/bug fix, allowing for a much more stable code base early on.

This is my summary on this topic, its difficult to say more without it becoming to intricate for myself to understand at this level of experience. I will instead write one more summary on another topic and hope that it flies.

Chaos Engineering

A technique using fault injection to test the resilience of distributed systems. In other words testing their fault tolerance, purposely exposing the systems to conditions that cause breakdowns in order to test their capacity to endure unexpected turbulence, effectively building confidence through testing.

This is a proactive approach to identify weaknesses before they manifest system wide and affect the customers. The company may ensure a systems ability to withstand realistic conditions by observing it during controlled experiments.
The testing/fault injection should be as automated as possible to be truly effective since manual methods isnt rewarding.

There are several Chaos Engineering tools that are developed to test the resilience of IT infrastructure. Netflix has developed Chaos Monkey, which now a part of a larger tool suite named Simian Army. Simian Army also includes Chaos Gorilla, Byte-Monkey and a bunch of other useful apes. Chaos Mesh is another tool used to orchestrate chaos on K8s environment.