DevOps Discussion

Why DevOps?

- Fill The Gap
- Unpredictable Deployment
- Mismatched Environment
- Configuration Drift
- Lack in Bet Practices

DevOps Practices?

- Continuous Integration / Continuous Delivery (CI/CD)
- Infrastructure As Code
- Microservices
- Monitoring and Logging
- Communication & Collaborations

Continuous Integration/Deployment?

Image that your stockholders ask your opinion about the benefit of implementing the CI/CD tool , What would be your answer in a less technical terms, why do implementing them helping the business profit?

- CI: The practice of merging all developers' code in one main line several times a day.
- CI: Merging all the effort in one pipeline opens a door to many beneficial. Ex: the ease of conducting test runs, analyses of code..etc
- CI: The above goals could be achieved without it, however it would be more fast and fun when using CI practices..
- CD: The value of the code is delivered frequently by automated deployments
- CD: Bugs and errors are inevitable, however we are in safe side

- Continuous Integration + Continuous Deployment = Continuous Delivery
- Eight Principles of Continuous Delivery which would help our business:

1. Repeatable Reliable Process
2. Automate Everything
3. Version Control Everything
4. Bring the Pain Forward
5. “Done” is Released
6. Everyone is Responsible
7. Continuous Improvement

Google App Engine vs GKE?

Image that you joined a startup company who had built its monolithic application on gcp app engine. Due to business boom now It is being agreed to convert it into micorservices architecture, and you have been used why they should migrate to GKE instead?

App Engine	GKE
PaaS from GCP which limited to popular programming language ex. Python, Java..etc	Orchestration service that makes it simple to deploy and manage container application (regardless code language)
All the securities concerns are handled by GCP	It adds a second layer of defense between containerized workloads for enhanced security
It is a regional services where it requires to create another project in another region when needed	It would be easier to build different cluster in different region automatical
Limited to used built-in GCP Stackdriver monitoring tool	Easily Integration with most of the open source monitoring tools. Ex: Prometheus, Datadog
Its main purpose for small scaled application	Built on the purpose of easier scaling and automation for live production environments
Managed Service by GCP exclusivlery	Cloud agnostic and no need to modify any code when migrating to other cloud provider

You are asked to deploy a very simple HTTP application connecting on k8s, describe in a concise way what k8s components would be used? Talking into consideration we need to collect the logs of the nodes for monitoring?

- Deployment
- Daemonset
- Services
- Ingress Controller