



## CS 470 Full Stack Development II

### **8-1 Assignment: Final Reflection.**

Denis Dzenyuy

4/17/2023

#### [CS470 Project Two \(Cloud Development\) Presentation](#)

There has been so much to learn and even more to explore in terms of cloud development, thanks to this course. The field of software development or computer science as a whole now comprises of mostly cloud technology and/or AI. Hence, knowing how cloud development works and now being able to implement it in a real-world scenario is obviously going to be biggest take away for this class for me. One example is Docker. I now understand its use and see a real world benefit/use of Docker Compose in where it would for example enable an e-commerce website to efficiently manage user activities such as logging in, browsing the catalog, adding items to a shopping cart, checking out etc. that have databases (like account database, product database, cart database), running behind the scenes to be containerized and served as a unified service.

Being able to create containers, and run or host a static website from it, deploying API's, creating policies based on permissions and attaching to roles in AWS IAM, saving software assets in DynamoDB, using AWS Lambda to run my code in response to certain events and have it automatically manage the underlying compute resources for me, and having my objects stored in my AWS S3 bucket, gives me the edge in implementing cloud computing and or understanding the need to migrate IT resources to cloud is an advantage that will give me an edge not only in the job market but most importantly in my current role as an analyst. The knowledge gained in this class goes beyond the role of a full stack developer. I think I am equipped to assume certain roles associated with cloud administrator or cloud architect, especially in AWS.

AWS microservices and serverless tools offer architecture (Service Oriented Architecture) that allows each service to operate independently and uses APIs and communication protocols for interaction between them, and automatic provision of storage, networking, and databases in a serverless architecture. All of these among many other advantages can significantly reduce the



cost of owning/maintaining on-premises machines, improves error handling, and offer flexibility by way of auto scaling (based on utilization) of EC2 and DynamoDB instances.

AWS offers a pricing calculator tool which users can use to model their solutions before building them. It is a web-based planning tool that you can use to create estimates for your AWS use cases. This gives serverless architecture a certain level of predictability in regard to cost compared to containerization. The idea of cost effectiveness ultimately boils down to use case or business needs.

The associated pros and cons that would be deciding factors in plans for application expansion ultimately lies in in depth cost to grow, market value, and security vulnerability studies. Why cloud services (elasticity by way of “right sizing”) may offer an easy approach towards expansion, organizational efforts linked to training and implementation may not be as easy. The pay-for-use service may come into play in such scenarios where resources are used (less or more) based on business demand.

Kind regards,

Denis.