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October 22, 2023

Assignment name: CS 470 Final Reflection

https://youtu.be/07pMHz3DP0s

In CS 470, I've gained a wealth of experience that aligns perfectly with my professional goals. The course has equipped me with the skills and knowledge needed to navigate the dynamic world of full-stack web development and cloud-based solutions. By successfully transferring a server from a containerized Docker file to AWS, I've not only achieved a major milestone but also strengthened my profile as a competitive candidate in the tech industry. Throughout this course, I've honed a set of essential skills that make me a more marketable candidate in the field. These skills include proficiency in programming languages like JavaScript, Python, and Java, as well as the ability to manage databases, develop APIs, and use various AWS services, such as S3, Lambda, DynamoDB, and API Gateway. Moreover, I've improved my problem-solving abilities and debugging skills, ensuring that I can deliver robust and efficient code.

My strengths as a software developer are rooted in my effective communication skills. I can seamlessly interact with both technical and non-technical team members, which is crucial for successful collaboration. I'm also well-versed in Agile development methodologies, allowing me to adapt to changing project requirements and deliver high-quality results. My experience in both front-end and back-end development has made me a versatile developer who can handle various aspects of a project. With the knowledge and experience I've gained in this course, I'm ready to take on a range of roles in a new job. I'm well-suited for positions as a full-stack developer,

where I can work on both the user interface and server-side logic. I'm also well-prepared for roles related to cloud architecture, such as a cloud solutions architect, where I can design and implement scalable and cost-effective cloud solutions for organizations.

In planning for the future growth of my web application, I've leveraged AWS services like S3, Lambda, DynamoDB, and API Gateway to enhance scalability and efficiency. I approached it by breaking down the application into microservices hosted on AWS Lambda to ensure scalability. Each microservice can be scaled independently as needed. For error handling, I would set up centralized logging and monitoring using AWS CloudWatch to quickly identify and resolve issues within the microservices being utilized. Regular monitoring and resource optimization are vital to predict and control costs effectively, I would routinely analyze AWS billing and usage reports to maintain cost predictability. While containers offer more control and flexibility, I would choose the serverless architecture for its abstraction and cost-efficiency. The decision was influenced mostly by the dynamic workload of the application and the desire for cost savings.

The advantages of expansion include enhanced scalability, flexibility, and cost-effectiveness through AWS services. While challenges include potential complexity, security considerations, and dependency on the AWS platform. Elasticity played a pivotal role in accommodating fluctuating workloads. We could seamlessly scale resources up or down as needed and the pay-for-service model ensured cost optimization by paying only for resources consumed, aligning with our scalability needs.

In summary, I've embraced the skills and experience from CS 470 to successfully transition my web application to AWS, using S3, Lambda, DynamoDB, and API Gateway to

boost scalability and efficiency. The decisions made for expansion were based on the specific needs and goals of the project, ensuring that it's well-prepared for future growth.