

CS 470 Final Reflection

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<https://youtu.be/bcgT1G4wZQQ>

Throughout this course, I have gained invaluable skills that are directly aligned with my professional goals in the tech industry. The comprehensive exposure to cloud-native applications, particularly through AWS microservices, has equipped me with the tools and knowledge necessary to excel in modern software development environments. By mastering concepts like containerization, serverless architecture, and cloud-based development, I am now a more competitive candidate in the job market, ready to tackle challenges in scalable and efficient software design.

As a software developer, I have honed my ability to build robust, scalable applications that leverage the cloud's full potential. My strengths lie in problem-solving, designing efficient systems, and implementing secure and reliable solutions. I am prepared to assume roles such as Cloud Engineer, DevOps Specialist, or Full Stack Developer, where I can apply my expertise in both backend and frontend technologies to create seamless and user-friendly applications.

In planning for future growth, the knowledge I have gathered about cloud services plays a crucial role. Microservices and serverless architectures offer distinct advantages for scalability and management. Microservices allow for modular development, where each service can be scaled independently based on demand. This flexibility is crucial for handling scale and error handling, as it enables targeted resource allocation and quicker recovery from failures. On the other hand, serverless architecture provides a cost-effective solution, as it eliminates the need for server management and operates on a pay-per-use model.

Predicting costs in a cloud environment involves analyzing usage patterns and estimating resource requirements. While serverless architectures offer predictable costs based on usage, containerization can be more challenging to forecast due to the need for dedicated resources. However, containers provide more control over the environment and can be more cost-effective at scale.

When planning for expansion, the decision between containers and serverless architectures depends on several factors. Containers offer greater control and are better suited for applications requiring persistent environments or complex dependencies. In contrast, serverless architectures are ideal for event-driven applications with unpredictable workloads. The elasticity of cloud

services plays a vital role in decision-making, allowing applications to scale dynamically based on demand, while the pay-for-service model ensures cost-efficiency.

In conclusion, this course has significantly contributed to my growth as a software developer and has prepared me for the challenges of cloud-based development. The skills I have acquired will not only make me a more marketable candidate but also enable me to make informed decisions in designing scalable, efficient, and cost-effective applications in my future career.