

Client

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Background

An application is being used to generate critical reports for customers. It utilizes a microservice architecture with over 20 microservices running in a Kubernetes cluster. This application communicates between its microservices using Amazon SQS. This normally works pretty well, with a few exceptions (size of message we can put on queue can be troublesome). However, we need to build a cloud agnostic messaging solution (e.g. we can't use any vendor specific cloud implementations like Amazon SQS, SNS, etc) to allow our microservices to be able to share information across the entire application.

Project Goals and Requirements

You will explore a few different messaging options to provide information that we will use to help craft a more flexible solution. The goal is to find the best messaging solution from a list of commercial products available. This project will include research at the beginning into the available products and then implementation of selected technologies. Here are a few of the recommended technologies to start:

- ActiveMQ
- RabbitMQ
- Kafka
- KubeMQ

Students will be able to learn Docker, microservice architecture, enterprise messaging, and DevOps. Additionally, students will be given the opportunity to present the results in a professional environment, create an industry relevant white paper, and learn soft skills needed to be successful in the software industry.

Suggested Team Size:

3 students

- US Citizenship Only (No Dual Citizenship)

Skills / Experience for CSM Students:

- Java or Python
- Docker
- DevOps