

Co-Development Leads to end-to-end Automated Pipeline

A Loan Software Company was undergoing a migration from an on-premise data center to Google Cloud Platform to improve scalability, resiliency, and cost savings. To migrate their applications to GCP with the least amount of impact, containerizing the applications made the most sense. This strategy, however, demands automation to create and deploy the containers so they asked Sketch to help build a Continuous Integration/Continuous Delivery (CI/CD) pipeline.

TECHNOLOGIES BEING LEVERAGED INCLUDE:

Programming skills: Java, Gradle, Github Enterprise, Jenkins, Kubernetes, Docker/Kaniko, Helm, Spinnaker, Istio Google Cloud Storage and Google Container Registry



Sketch was a pleasure to work with and tackled every challenge we sent their way. I really hope we can take the skills we learned and get the other teams to practice them as well. Lots of good knowledge transfer, and success along the way. Can't get much better than that."

— Director of Development



CHALLENGE

To migrate, our client needed each of their applications configured, rebuilt, pulled into a pipeline, and then deployed to the cloud. Unfortunately, they didn't have a team with enough experience to do the development work. Most importantly they needed an automated pipeline that could:

- Access the source code of a Java SpringBoot application
- Compile the application and initiate automated tests with Gradle
- Create a container image capable of running the application
- Deploy the container into Kubernetes using Spinnaker

SOLUTION

Sketch brought in one of our senior cloud engineers to take on the challenge. The client wanted the pipeline to be established first, so their development teams could start leveraging the automation as soon as possible.

Sketch started building the pipeline, which included the following plan:

- Use GitHub, Jenkins, Docker/Kaniko, and Kubernetes (common enterprise DevOps tools)
- Use Helm along with Spinnaker for deployment
- Implement SonarQube to ensure higher code quality, application stability, and security
- Suggested FNI research and add to their environment a service mesh tool called "Istio" to offer monitoring, logging, tracing (debugging), and complex routing... all without having to modify any application code

One other primary goal was for Sketch to pair with their employees for the creation of this pipeline to facilitate knowledge sharing during the entire process. Through this collaborative effort, Sketch and the client chose the simplest of applications to use as the guinea pig proving the success of each stage of the pipeline as it went from build to test to package to deploy.

RESULTS

After watching the app go through various phases, our client knew the **pipeline was complete** – an iteration earlier than our originally scoped end date. **Sketch then conducted a 3-day immersive DevOps training course** taught by two of Sketch's team members highlighting what was included in the new CI/CD pipeline. Please see our DevOps Bootcamp Case Study to learn more.