Internship Druva

Reflection

Bachelor in Electronics-ICT
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PREFACE

My internship was at the software company Druva in Letterkenny, Ireland. Formerly called Cloudranger. It was acquired by Druva in 2018. The Cloudranger project offers simple and scalable AWS backup & recovery. It is the main product under development at the Letterkenny site.

The first weeks of the internship taught me a lot about how a modern software-company operates and, specific to Cloudranger, how their cloud-environment works.

As a Cloud & Cybersecurity student, I made it my mission to tighten the gap between developers and operations. keeping this in mind, I did a couple of things to improve the company's pipeline and keeping their secrets from leaking.

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JEST PIPELINE INTEGRATION + GRAFANA DASHBOARD

The idea is to automatically do a Jest test for the repository CloudRanger_app_2_processing during the Codebuild process so that a notification can be displayed in a channel on Slack. The pipeline should fail if a unit test fails and/or if the coverage percentage went down. The Slack message should contain links to the reports and explain why the build failed. Additionally, we want to have a graphical overview of the reports in Grafana.

This should eventually be applied to all repositories & environments so the code must be flexible.

Reflection

I learned a lot by working on this project. This was my first time working with AWS CodeBuild. Along the way, I learned that the CodeBuild runtime used Dash instead of Bash which has a POSIX compliant syntax.

It was also my first time creating a Slack bot and creating a Grafana dashboard. I had to read a lot of documentation to get a good understanding of all these technologies and getting them to work together.

After it was finished. I helped another intern to get along with all the code I've written so he could try to populate the code to the other repositories.

LAMBDA FUNCTION: SECRETS & PII OBFUSCATION

For the second project of my internship, my goal was to create a Lambda function that detects secrets and PII (Personal Identifiable Information) in a given string of text to avoid leaks to an external API. After a potential secret or PII is detected, it is replaced with a placeholder to hide the original value.

The company wanted to create a chatbot in Slack that works with OpenAIs API. In order to prevent leaks of sensitive information to the API, I designed this Lambda function to be used as a middleware for the chatbot.

To create the function, I used AWS SAM to easily deploy and make changes to the project. It runs Python code and I wrote my own class to filter PII.

Reflection

I learned a lot by working on this project. This was my first time working with Lambda functions. It really showed me how powerful serverless services are and how easy they are to work with. I used it to run Python code. My code consisted of a library to detect secrets and my own Python class to detect PII. I made the class myself because the alternative projects on Github were too large in size to be used in a Lambda funtion. It has a size limit of 250MB. This process forced me to be creative while delivering a product that is useful to the company.

GENERAL CONCLUSION

I feel like I made a difference at Druva. The unit test integration is going to be implemented in all their repositories and the Lambda function is also running in production. I think that it makes the life of the developers easier & safer. It was also nice to be able to help another intern and that I could help my other colleages on certain tasks.

I learned a lot about AWS in general. During my internship, I had the opportunity to use AWS courses on Udemy to learn more about the different services they offer. The Codebuild part took most of my time with the Dash script for the buildspec file. The funny thing is that I thought that the Amazon Linux AMI image used Bash. Apparently, it uses Dash which meant I had to rewrite the script to be POSIX compliant.

Apart from the technical side of things, I also got better at speaking English which was one of the reasons for me to choose an internship in Ireland.