ABSTRACT

JEFRI ADVENTER (2019071107)

AUTOMATION PORTAL AND SELF-SERVICE FOR CLOUD-BASED INFRASTRUCTURE

In the increasingly advanced digital era, many organizations are turning to automation and self-service to improve efficiency and performance in managing their IT infrastructure. Therefore, in this report, the practitioner will explain how I implemented automation and self-service in operational engineering, as well as the positive impact resulting from the implementation of such technology.

In the application development process, especially those using microservice architecture, it usually requires more frequent and complex deployment. Because each service is implemented separately, there are more things to consider when deploying, such as ensuring service availability, coordinating deployment and rollbacks, and managing configuration.

To accelerate the release process of an application, automation and self-service processes are needed, both in the process of building infrastructure in the cloud and in the process of building the application itself, starting from unit testing, integration testing, compilation, and containerization. To support these processes, several supporting applications are needed, namely Terraform and bash scripts for continuous deployment, Bitbucket as a version control system, continuous integration, and a place to run pipelines, and Docker to create container images. Terraform is used by the practitioner engineer or service owner to create as many infrastructure resources as needed without having to learn the cloud platform itself, while bitbucket pipeline and bash script are used to run Terraform, create and upload container images.

Keywords: *Microservice, Infrastructure as a Code, CI/CD, Terraform, Bash, Container*