

## ABSTRACT

*PT Andal Rancang Multi Solusi (PT ARM Solusi) is a technology company that focuses on big data development, data analysis, collaboration, administration automation, application integration, and API. PT ARM Solusi has an application product Coofis (Collaboration Office) which aims to improve efficiency by eliminating the use of paper through automation of administrative processes. Currently, PT ARM Solusi is developing the Coofis product into Coofis Verse by changing the architecture from monolithic to microservice. Microservice architecture offers higher flexibility, scalability and development efficiency. One of the important services in this development is the Auth (Authentication) service. The utilization of Auth in application development aims to verify the user's identity before granting access to the application. One application is OAuth 2.0, which generates authorization through request tokens, access tokens, and refresh tokens for API user authentication.*

*In this Final Project, the design and implementation of the OAuth 2.0 Protocol by implementing a Single Sign-On system in the Coofis Verse Product Development at PT ARM Solusi has been carried out. The implementation of the Single Sign-On system using the OAuth 2.0 protocol is designed using an automation tool called Ansible and uses an open-source platform as an authentication and authorization service provider for applications called Keycloak.*

*The results of the OAuth 2.0 Protocol design in this Final Project include the creation of a Single Sign-On system using the Keycloak platform which shows that the Keycloak implementation allows users to access various applications with a single set of credentials, thereby increasing user convenience and operational efficiency.*

**Keywords:** *PT Andal Rancang Multi Solusi, Coofis, OAuth 2.0, Protocol, Single Sign-On, Keycloak*