

## **ABSTRACT**

Cloud computing is currently used by IoT producers to store data, process data, and support computing. However, in its application, Cloud computing have to be improved again in many ways, especially in matters related to network bandwidth on the Cloud, and problems related to security in the Cloud. Fog computing is one of the solutions used by IoT devices that provide assistance in computing, storage, and networking between end devices and Cloud servers.

This Final Project focuses on service registration and microservices deployment for fog computing based application in wifi network. On the registration service, the user sends user ID and password, then stored in a database, so that the user can login to the application. Furthermore, the user will perform an authentication process with the server to validate the entity that will be used in transactions. After that, the user is directly connected to the fog, and the deployment process is occurred, the user can access what services are provided by the fog and then the fog will provide the service selected by the user.

In the experiment, the authors analyze the transfer delay and process delay that occurs in the system. In this Final Project, it can be seen that the maximum delays occurring on the system are 0.5501 seconds and 0.917 seconds which are obtained in registration process and mySQL deployment process respectively.

**Keywords:** *Cloud computing , Fog computing , Service Registration, Deployment, WiFi Network*