Abstract
Internet of Things (IoT) is a concept that connects machine to machine (M2M) which is very useful because it can help human work and its use is currently very broad. In sending data between IoT devices using protocols, one of which is the Message Queuing Telemetry Protocol (MQTT) because it is light and energy efficient. However, MQTT has a vulnerability in the built-in authentication security system that is vulnerable to sniffing attacks. Therefore, an additional authentication system is needed to overcome these weaknesses. In this study, we develop an authentication system by utilizing an authentication server to handle the first factor authentication by not using the MQTT broker as the actor that handles the first factor authentication and biometric fingerprint as the second factor authentication. The Two Factor Authentication system was tested by conducting 60 experiments on the fingerprint biometric system to get its accuracy with the confusion matrix. The results of this study prove that the Two Factor Authentication system with biometric fingerprint developed is reliable because it has an accuracy of 91.6 percent.
Keywords : IoT, MQTT, autentikasi, biometric, sniffing