

ABSTRACT

Vaccines are antigenic ingredients used to produce active immunity to a disease so as to prevent or reduce the influence of infection by organisms. The process of storing the vaccine is usually placed chiller. Chiller is a storage area used to cool things inside. The quality of a vaccine can be maintained by keeping the temperature at its limits. In the storage of vaccines are still done recording the storage temperature manually. This study designed a vaccine chiller temperature monitoring sistem that can connect to internet connection. PT-100 sensors are used to determine the temperature of glycol liquids used to represent vaccine fluids that are well stretched at 2 - 8°C and for microcontrollers using esp32 modules that already have WiFi for data transmission. In this thesis penelitain using MQTT communication protocol that will be connected with antares platform as a broker. The results of pt-100 sensor testing against the temperature of the vaccine chiller received an accuracy value of 99.32%. From the results of testing the sensor reading value is in accordance with the data on this chiller indicates that the designed sistem has worked well. In addition, QoS (Quality of Service) testing obtained an average value of 41.91 ms. In testing Packet loss parameters get a value of 0%. All test results of Delay and Packet loss according to TIPHON standards fall under very good criteria.

Keywords: *Vaccine, sensors PT-100, ESP32, MQTT, QoS*