

ABSTRACT

The emergence of intensive cultivation systems is a way out of the problem of lack of land in fish farming, especially catfish. But this intensive cultivation has its disadvantages, namely because it utilizes the technique of water recirculation system, so that even though it saves water, in this intensive system the pH in the pond tends to be uncontrolled. For this reason, a pH monitoring system was conducted on intensive catfish farming. This pH monitoring utilizes Internet of Things (IoT) technology. In monitoring also need to be considered is the quality of service when sending data. Because the delay in data delivery (delay) will affect the handling of pH levels when monitoring. In this study utilizing the use of HTTP and MQTT protocols to see which service quality protocols are best in sending data. In this study the results of the test show that the HTTP protocol has a delay average value below 1, while MQTT has a delay with a range of 130-140ms. HTTP has an average jitter value of 0-33ms while MQTT has a jitter range between -24 to -55ms. While the financial throughput has an average throughput value of 200bps. Then for packet loss parameters both have the same quality because it produces a packet loss value of 0%. It can be concluded that the use of the HTTP protocol is better to the MQTT protocol seen from the quality of service.

Keywords : *pH Monitoring, HTTP, MQTT, Quality of Service*