# Analisis performansi QoS MQTT pada sistem monitoring sungai

**Fitra Ilham[1], Aji Gautama Putrada[2], Sidik Prabowo[3]**

Fakultas Informatika, Universitas Telkom, Bandung
[1]fitrailham4@student.telkomuniversity.ac.id, [2]ajigps@telkomuniversity.ac.id,
[3]pakwowo@telkomuniversity.ac.id

**Abstract**

**MQTT QoS performance analysis on river monitoring system is one solution to deal with flooding problems in the Dayeuhkolot river area, Kab. Bandung. Therefore, in this study a case study was carried out in this final project concerning river monitoring. In designing this system, this system uses data transmission, namely the MQTT protocol with the principle of a wireless sensor network where the sensor will detect the water level then the sensor will send data to the microcontroller from the microcontroller sent to the MQTT broker then publish it to the subcribe MQTT client the topic of MQTT. This system also performs MQTT QoS analysis for sending data from ultrasonic sensors to Raspberry Pi which can be applied to this flood detection device in order to obtain optimal performance. Through this test for 30 minutes for each QoS in one condition, the result is that the average delay time of data transmission for each MQTT QoS is QoS0 0.943921s, QoS1 0.98576s, QoS2 1.11717s. While the Packe Loss of the average data transmission for each QoS is QoS0 0.194530%, QoS1 0.24329%, QoS2 0.23604%. QoS2 is very good for retransmision, duplicate, and RTT parameters. Because the accuracy at RTT is better, then duplicate and retransmision have the smallest packet / s deliveries of QoS1 and QoS2**

**Keyword: MQTT, QoS, Packet Loss, Delay, Throughput, Retransmision**