

**Pemanfaatan Teknologi WebSocket Pada Pengiriman Data IoT
Berbasis Realtime Scenario (Studi Kasus Pengendali Lampu Berbasis Web)**

*Utilization of WebSocket Technology in IoT Data Delivery Realtime Scenario-
Based (Web-Based Light Controller Case Study)*

Pembimbing (1 Orang)

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ABSTRACT

This research aims to implement WebSocket in the development of a web- based light control system using Internet of Things (IoT) technology. The integration of IoT technology in light control has become an increasingly popular topic in the context of smart homes and energy efficiency. In this study, the researchers integrated Arduino, ESP32, and WebSocket technology to enable users to control lights in real-time through a VPS web interface. The Arduino UNO acts as the control center that manages the lights and receives instructions from the ESP32 connected to the server. Data is sent from the server to the ESP32 via WebSocket and then forwarded to the Arduino to manage the light status. The results of the study indicate that the system is capable of providing fast and accurate responses, with instant light status updates through the web dashboard. It is expected that the implementation of WebSocket in this system can improve energy efficiency and overall home automation capabilities.

Key Words: *Internet of Things, Webscoket, Server-client communication*