Rancang Bangun Sistem Notifikasi dan Pemantauan Ruang Server LLDIKTI Wilayah III Jakarta Berbasis Platform Internet of Things (IoT) Thingsboard = Design And Build A Notification And Monitoring System For LLDIKTI Region III Jakarta Server Room Based On The Internet of Things (IoT) Thingsboard Platform

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Abstrak

Server di LLDIKTI Wilayah III sangat penting karena server tersebut menyimpan data mirroring, seperti data PD DIKTI dan berbagai data internal LL DIKTI. Data mirroring ini sendiri menjadi data backup seandainya data dari Pusdatin Kemendikbudristek tidak dapat diakses atau mengalami kendala, seperti ketika adanya maintenance server atau terjadinya bencana alam. Tujuan penelitian ini mendeteksi keberadaan asap dan mengaktifkan alarm sebagai suara peringatan adanya kebakaran selain memantau temperatur dan kelembapan udara terkini berbasis Telegram di LLDIKTI Wilayah III. Keunikan dari penelitian ini yaitu memantau temperatur, kelembapan udara terkini dan keberadaan asap menggunakan DHT11 Temperature and Humidity Sensor dan MQ2 Gas/Smoke Sensor pada ruang server LLDIKTI Wilayah III, melalui Telegram dan Thingsboard. Kontribusi penelitian ini penambahan deteksi keberadaan asap menggunakan MQ2 Gas/Smoke Sensor (Sensor Asap MQ2) melalui Telegram dan Thingsboard. Hasil yang didapatkan dari penelitian adalah sebagai berikut: Pada skenario 1, perbedaan rata-rata suhu dan kelembapan antara sistem dengan alat higrometer HTC-2 sebesar 1,08 derajat Celcius dan 12,94 persen. Pada skenario 2, perbedaan rata-rata suhu dan kelembapan antara sistem dengan alat higrometer HTC-2 sebesar 0,009171 derajat Celcius dan 20,89743 persen. Pada skenario 3, perbedaan rata-rata suhu dan kelembapan antara sistem dengan alat higrometer HTC-2 sebesar 0,9905 derajat Celcius dan 11,9689 persen. Pada skenario 4, percobaan menunjukkan keberadaan asap berkorelasi dengan kenaikan nilai asap dan gas yang diterima sistem.

.....The server in LLDIKTI Region III is very important because the server stores mirroring data, such as PD DIKTI data and various internal data of LL DIKTI. This mirroring data itself becomes backup data if data from the Pusdatin Kemendikbudristek cannot be accessed or experiences problems, such as when there is server maintenance or a natural disaster occurs. The uniqueness of this research is to monitor the temperature, the latest humidity and the presence of smoke using the DHT11 Temperature and Humidity Sensor and the MQ2 Gas/Smoke Sensor in the LLDIKTI Region III server room, and send notifications to Telegram. The contribution of this research is the addition of smoke detection using MQ2 Gas/Smoke Sensor (MQ2 Smoke Sensor) via Telegram and Thingsboard. The results of this study are useful for administrators and LLDIKTI Region III to get the latest and updated information regarding temperature and humidity and the presence of smoke in the LLDIKTI Region III server room via Telegram and Thingsboard. The results obtained from the study are as follows: In scenario 1, the average difference in temperature and humidity between the system and the HTC-2 hygrometer is 1.08 degrees Celsius and 12.94 percent. In scenario 2, the average difference in temperature and humidity between the system and the HTC-2 hygrometer is 0.009171 degrees Celsius and 20.89743 percent. Inscenario 3, the average difference in temperature and humidity between the system and the HTC-2 hygrometer is 0.9905 degrees Celsius and

11.9689 percent. In scenario 4, it shows the presence of smoke correlates with an increase in the value of smoke and gas received by the system