

ABSTRACT

ANALYSIS OF FIREBASE SYNCHRONIZATION SPEED WITH ANDROID-BASED CHAT APPLICATIONS

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Firestore is a cloud database service provided by Google for storing and displaying data in applications for the web, iOS or Android. Firestore has many features such as authentication, database, storage, hosting, notifications and others. Therefore, to compare how fast the data is synchronized on Firestore, analysis can be carried out using a chat application which contains a timestamp or time when it was sent, saved in Firestore, and then received by another device. The analysis was carried out by making a comparison by conducting trials with two different networks, namely the WiFi network and cellular data. 500 messages were sent and received data alternately between the 2 devices for analysis. From the analysis results, it was found that the average on the WiFi network was 373 ms (Sender to Firestore), 154 ms (Firestore to receiver), and 527 ms (Sender to receiver) on HP 1. On HP 2 it was 291 ms (Sender to Firestore), 72 ms (Firestore to receiver), and 354 ms (Sender to receiver). And on cellular data we get 252 ms (Sender to Firestore), 267 ms (Firestore to receiver), and 511 ms (Sender to receiver) on cellphone 1. On cellphone 2 we get 561 ms (sender to Firestore), 282 ms (Firestore to receiver), and 846 ms (Sender to receiver).

Keywords: android, cellular data, firestore, timestamp, wifi