

IMPLEMENTATION OF CLEAN ARCHITECTURE IN ANDROID-BASED E-COMMERCE APPLICATION DEVELOPMENT

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ABSTRACT

The changing times have changed people's lifestyles to become completely online so that people cannot be separated from technology, one of which is the trade sector. Currently, there are many online trading or e-commerce applications emerging, but the quality of the code in these applications is not of high quality, the code written seems careless, code duplication is everywhere, the structure and aspects of code writing are irregular. This will have an impact on the application and cause problems with the application. In previous studies, there have been those who have successfully applied the concept of Clean Architecture, including the research of Duy (2017) and Díez (2016), but the application made is not an e-commerce application. Referring to the results of their research, the authors develop an e-commerce application that implements a Clean Architecture that can produce quality code. This application is implemented using the Kotlin programming language, which includes PostgreSQL as its database. In addition, this application integrates the use of API (Application Programming Interface) from RajaOngkir to determine shipping costs, and Midtrans as a Payment Gateway to simplify the buying and selling transaction process. The resulting e-commerce application can implement a Clean Architecture with four layers of division of tasks, namely entities, use-cases, interface adapters, and frameworks. The results of the unit testing carried out are testing getting a 100% PASSED value from a total of 24 (twenty four) classes tested.

Keywords: *Online Store, Android, PostgreSQL, Clean Architecture*