

ABSTRACT

Utilization of the web as a spreader or exchange of information has grown and thrived. *Server* is a medium that has an important role to provide internet access service for its users. In this case, so that the network can be utilized optimally, the required *server*.

The design of this final project *server* using virtualization technology by using Proxmox VE. Is a virtualization platform that supports open source to run a virtual machine-based KVM and OpenVZ. Using the techniques of load balancing to distribute the traffic load on the connection path in a balanced way, so that traffic can be optimized to maximize throughput, avoid overload at one connection point. Using Round Robin algorithm in load balancing. Because this algorithm divides the load in rotation and sequentially from the *server* one *server* to another. With data base replication technique where by each content changes on one database will affect all databases.

At the end of the software tested using Web Stress Tool to determine the ability of the *web server* to serve the access of users.

The end result of this final project is the implementation of the *server* by using a *Load balancer*, *Failover*, and database replication. It is designed to help provide services that run continuously for IKIP PGRI Bali that runs in the field of academic information systems. The conclusions derived from this scheme is to increase the value the availability of the *server* is built.

Key Words : *Server*, Virtualization, *Load balancer*, *Failover*, Database Replication.