

## **ABSTRACT**

Distributed computing system becomes a necessity in the implementation of web applications today. The efficiency of the use of hardware resources and the high number of web application users are driving the implementation of this system in the current web application architectures, but the complexity of use, and the design of these systems impedes implementation.

Container virtualization technology becomes the solution to run a distributed system that is easy to run, configurable and has high scalability. Plus the number of tools running container on distributed systems, addressing the complexity of implementing distributed systems in web applications.

In this paper, it has been implemented a distributed system that can quickly schedule new applications in a cluster, all operations performed with zero downtime, as well as fault tolerance.

Keyword: *distributed computing, container virtualization, clustering, docker, docker swarm*