

ABSTRACT

In this digital era, companies face pressure to upgrade their IT infrastructure to manage data more effectively, securely and scalably. This data infrastructure is the key to maintaining smooth services and operations, especially for large companies with complex and extensive data centers. PT. Pelayaran Nasional Indonesia (PELNI), as a leading company in the shipping industry, also faces similar challenges in managing their data center infrastructure.

This Final Project utilizes microservices architecture and container orchestration platforms such as Kubernetes, PT. Indonesian National Shipping (PELNI) has updated their data center management system to a higher level. To manage the data center infrastructure, PT. Indonesian National Shipping (PELNI) requires an advanced and integrated monitoring system to monitor data collection and infrastructure performance in real-time. Therefore, integrating the Data Center Infrastructure Management (DCIM) application using Kubernetes Architecture is a must for PT. Indonesian National Shipping (PELNI).

It is hoped that this final project can plan, implement and monitor infrastructure using Kubernetes for the Data Center Infrastructure Management (DCIM) application at PT. Indonesian National Shipping (PELNI). These steps not only increase operational efficiency, but also enable PT. Pelni can address the needs and challenges of better data center management. By implementing Kubernetes, PT. Indonesian National Shipping (PELNI) can improve documentation and network management, as well as strengthen the security of DCIM service data infrastructure services.

Keywords: *kubernetes, DCIM, arsitektur microservices, netbox*