

## Case Study

# How Docker Transforms Software Delivery and Empowers Developers at The Warehouse Group



**About company:** The Warehouse Group (The Group) is New Zealand's largest retail chain

**Industry:** Retail

**Company size:** 12,000+ employees

**Location:** New Zealand

**Use case:** Retail

## Summary

### New Zealand's retail leader transforms development with Docker

The Warehouse Group (The Group) regularly reviews risks that could hinder business growth. One risk was outdated IT infrastructure constraining their digital transformation pace. To transform development and deployment, The Group adopted Docker containerization for its proven ability to simplify and accelerate the application building, testing, and deployment.



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## Company profile

# About The Warehouse Group

The Warehouse Group (The Group) is New Zealand's largest retail chain, employing more than 12,000 people and generating NZ\$3.3 billion (US\$2 billion) in annual revenue. The Group operates more than 300 stores under brands such as The Warehouse, Warehouse Stationery, Noel Leeming, and Torpedo7. The Group also runs TheMarket, an online marketplace for local businesses.

## Problem

# Long setup times, inconsistent environments, and slow deployment cycles

The Group previously struggled with traditional development practices involving long setup times, inconsistent environments, and slow deployment cycles. The lack of standardization and automation hindered collaboration between developers and operations teams, causing delays in delivering new features and bug fixes. The Group required a solution for a DevOps culture focused on continuous integration and deployment.

Previously, VMware virtualization was the default for application deployment, resulting in developers waiting weeks for environments. Matt Law, The Group's Chapter Lead of DevOps, recalls it being incredibly slow, proving the need to provide more autonomy through faster setup times. Slow and disjointed systems were holding back The Group from innovating at the pace needed to keep up with industry changes.



## Solution

# Standardization on application-level virtualization from Docker

In 2016, The Group started working with Docker. The Group's decision to adopt containerization technology was driven by its ability to ensure uniform environments, eradicate deployment impediments, and enable developers to conduct local testing. The organization strived to establish a streamlined and flexible development environment by transitioning from virtual machines to Docker containers.

Upon completing the second phase of their Golden Path initiative, which they'd started in 2020, The Group reported an annualized saving of approximately 52,000 developer hours. This was achieved through the creation of templates and improved delivery efficiencies. As a result, the return on investment was realized in just eight months. The impressive return on investment continues to yield substantial savings year after year.

 **Company:** The Warehouse Group

 **Revenue:** 3,294,332,000 NZ\$ (that's \$2,004,732,795 in USD)

 **Total staff:** 12,000 members

 **Developer team size:** 150 developers

"Docker has been crucial for empowering developers to have everything they need on their own laptops and work autonomously. The containers encapsulate the dependencies and environment so developers don't have to waste time with setup. The ecosystem we've built enables frictionless onboarding for developers in any work arrangement — full-time, contract, or remote. Docker has unlocked a lot of flexibility in how we structure our teams and workflows by abstracting away environmental inconsistencies. The containerization technology aligns perfectly with the workspace shift we've seen towards more remote-friendly and flexible arrangements."

### Matt Law

Chapter Lead, DevOps, The Warehouse Group

"There are some squads that, if the architecture is right, can go into production in less than an hour from the code being ready. And that's never happened before."

### Matt Law

Chapter Lead, DevOps,  
The Warehouse Group

"The ecosystem that we have implemented with Docker works seamlessly regardless of whether developers are permanent employees in our offices, contractors, or fully remote workers."

### Matt Law

Chapter Lead, DevOps,  
The Warehouse Group

"Docker's the default position for us as a business because we know that it works, it's reliable, it's efficient, it's just really easy for us to get things up and running quickly."

### Matt Law

Chapter Lead, DevOps,  
The Warehouse Group



## Key benefits

# Cost and time savings, improved efficiency

Deployments are now much more streamlined and programmatic. Developers commit their code and create a pull request that gets approved, Jenkins kicks off a pipeline for continuous integration, and Harness does the deployment. Deployments are then moved through dev and test, and then, after a final check by a human being, pushed to production. This often happens within an hour of the code being checked into The Group's source code repository.



### Increased developer efficiency

Docker's containerization allows developers to test applications locally, reducing the feedback loop from days to minutes. This led to faster identification and resolution of issues, enabling developers to focus on delivering new features swiftly.



### Streamlined deployment process

Docker's seamless integration with Jenkins and Harness facilitated continuous integration and deployment, automating the software delivery pipeline. This resulted in faster and more reliable deployments, ensuring that new features and updates were rapidly made available to customers.



### Consistent environments

Docker's containerization ensured consistency across development, testing, and production environments, reducing the risk of "it works on my computer" issues and enabling smoother deployments.



### Empowering developer autonomy

Docker's containerization allows developers to have complete control over their applications, fostering a sense of ownership and empowerment within the development teams.



### Cost and time savings

The Group's developer ecosystem with streamlined processes, which include using Docker and Backstage, saved The Group more than 52,000 hours annually, resulting in significant cost savings and improved resource allocation. Deployment of developer environments used to take weeks. Now deployment time is 60 seconds for a new development deployment that can move seamlessly from development to production with no need to modify the image.



## Cultural and architectural shift to DevOps

The Group's successful adoption of Docker was not solely a technological shift but also a cultural and architectural one. The company embraced a DevOps culture, encouraging collaboration and experimentation. Developers were empowered to take ownership of their code, leading to increased innovation and creativity. Architecturally, The Group focused on clear contracts and decoupled approaches, aligning them with Docker's microservices and API capabilities.

The Group embraced a DevOps culture philosophy. Their aim was to spare themselves from writing pipelines for individuals and instead offer them more valuable tasks to engage in. Interestingly, this approach brought about a significant change in how their chapter operated. The Group's DevOps team found themselves needing to incorporate more cultural aspects into their work and had to become advocates for a more modern architecture. Consequently, they required a different skill set, one that was as influencers. This was crucial in helping teams adapt to their "shifting left" philosophy and ensuring they wouldn't be the sole owners of these responsibilities.

Law elaborates on The Group's Docker-enabled development strategy, saying, "In essence, it's about maximizing the visibility and accessibility of our processes for our developers." A prime illustration of this is the testing phase. Traditionally, one might develop a service, launch it into the production environment, and then initiate testing; however, The Group's approach advocates for incorporating testing as an integral part of the coding process itself.

The question then arises: How does one test the code locally? This is where Docker becomes a crucial tool. Suppose you need to conduct a test involving a database. The most efficient way to do this locally is to generate a container, simulate it, or establish it locally, enabling you to conduct tests against it.

The goal is to avoid postponing tests until after deployment or until the code is in a specific environment. This traditional approach only extends your feedback loop and delays your tests. "With Docker, we can streamline this process, enhancing efficiency and productivity," Law says.

**"One of the key benefits we've seen from using Docker is that it enables a very flexible work environment. Developers can build and test applications locally on their own machines with consistency across environments, thanks to Docker's containerization approach."**

### Matt Law

Chapter Lead, DevOps, The Warehouse Group



52,000 hours saved annually in development due to faster deployment and flexibility



Return on investment was realized in eight months



Development feedback loop reduced from days to minutes



## Results

# Faster time-to-market for new features

The Group has a strong commitment to continue to invest in core systems and customer-facing digital offerings, including real-time inventory management for their Distribution and Online Fulfillment Centers, improving the customer online ordering, delivery, and collection experience; and further development on their brand websites and apps, enabling a stronger integrated retail shopping experience.

Throughout the journey, The Group encountered various challenges and learning experiences. The company highlighted the importance of focusing on cultural aspects, architectural best practices, and empowering developers to drive innovation. Additionally, the flexibility and reliability offered by Docker allowed The Group to scale its operations effectively, reducing reliance on manual intervention and driving faster time-to-market for new features.

Future aspirations include exploring further improvements to the development ecosystem, leveraging Docker's capabilities to optimize various processes, and collaborating closely with Docker to provide feedback and influence the product roadmap. The Group intends to continue its innovation journey, embracing new technologies and practices to remain at the forefront of the retail industry.

The Group's partnership with Docker has been transformative, significantly enabling the organization to enhance its development and deployment practices. Adopting Docker's containerization technology has resulted in increased developer efficiency, streamlined deployment processes, and cost savings. By embracing Docker, The Group has solidified its position as a leader in the retail industry and continues to inspire other organizations to embark on their journey toward a more agile and efficient development environment.

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**"We've seen massive savings in terms of time for our developers — they just get up and running straight away."**

**Matt Law**

Chapter Lead, DevOps,  
The Warehouse Group

**"The ecosystem that we have in play works, regardless of whether you're a permanent employee or a contractor or remote."**

**Matt Law**

Chapter Lead, DevOps,  
The Warehouse Group

**"When I started, we had about 600 virtual machines. At the moment, that's down to about 400, but now we've got three and a half thousand containers."**

**Matt Law**

Chapter Lead, DevOps,  
The Warehouse Group

