SUCCESS STORY

indium
Make Technology Work

DIGITAL LOGISTICS PLATFORM ON AWS

ABOUT CLIENT

A leading platform services provider for the logistics and supply chain industry across trucking, rail freight, shipping line and warehousing to achieve a flexible & formidable data-driven infrastructure for their customers.

DOMAIN

Logistics & d supply chain management

TECHNOLOGIES

ReactJS, Java 8, Spring, AWS ELK, AWS EKS, AWS Load Balancer with NginX, Jenkins, AWS MySQL RDS, AWS Redis

KEY HIGHLIGHTS

- Hybrid development methodology to handle varying requirements and helping the IT agnostic client in framing the architecture and design of the website through proper training on industry best practices

- Kubernetes Pod auto crash during the code deploy was fixed through proper runbook updates which resulted in time & cost savings for both business & technical teams

- Accommodated offline methods of doing business on the online platform by embracing traditional logistics business along with digital initiatives

PROJECT OVERVIEW

Indium developed and deployed a freight & cargo booking digital platform which caters to the needs of various users on the customer and business fronts including freight handling & inventory management. The platform was built to have a unified view of the freight schedules and pricing from partners in a single window with self-service capabilities and seamless user experience for business users.

BUSINESS CHALLENGES

- Bespoke development of a customized logistics platform with complex technical design to incorporate offline methods of doing business
- Helping the IT agnostic client in framing the architecture and design of the website and educating them on the best practices
- Enable the client to reduce the number of brick & mortar field offices unlike any other freight services provider without neglecting vendors and partners
- Handling hazardous materials in freights required more regulations for different geographic locations
- Required constant monitoring for the entire solution owing to dynamic requirements with respect to handling multiple geographies, languages & regulations

SOLUTION

- Indium performed a greenfield implementation of the logistics portal on a highly containerized model on AWS using Docker & Elastic Kubernetes Service (EKS) to handle adding and validation of new partners and for handling different ships leaving at different times based on the needs of the customer
- Developed a microservices based architecture using EKS for parallel handling of multiple features & functionalities and to handle the highly dynamic nature of costs of freights based on the shipping route and the type of materials which were being shipped
- Built various custom filters for handling ports, Inland Container Depots (ICD) and other places from which the freight logistics can take place with the least time consumption
- Built a 100% automated CI/CD pipeline across the development lifecycle for accelerated time-to-market for the customer and to add more filters with respect to costs and sea routes
- Developed 3 separate portals namely:

    a. Customer portal to enable registration of customers into the logistics platform and undertaking the booking

    b. Business portal for validating the customer and approving the freight booking

    c. Integration platform which handled the updating of freight schedules and pricing from partners
- Developed a highly interactive UI with ReactJS on the frontend to make sure the end user is not overwhelmed by the myriad of options and added functionalities to enable partial payments by sender & receiver with complicated business rules
- Deployed the solution on a highly scalable AWS infrastructure with Elastic Kubernetes Service (EKS) cluster to handle the spikes in customer's business and to add new customers and new geographies based on the shipping routes
- Developed the solution with inbuilt features to handle hazardous and non-hazardous materials separately and business rules to allow stacking of containers based on the materials present inside
- Built the solution leveraging AWS RDS on MySQL for High availability and maximum scalability (both horizontal & vertical)
- The solution was developed using AWS Application Load Balancer with NginX ingress controller keeping in mind of the high availability which would be required at an application level and database level across multiple geographies
- The solution was built using ELK stack for log analysis along with Prometheus & Grafana with constant observability on the varying regulations across different geographies and to handle the price conversion between countries along with their respective taxation

BUSINESS IMPACT

- Delivered the solution at over 60% faster time-to-market despite the dynamic nature of the platform across different topographical locations
- Transformed the entire business to online with seamless UI/UX for all the users with custom filters for handling different currencies, different shipping routes and different materials being shipped
- Built a highly scalable multi-lingual platform with support for 8 languages at present and expanding to approximately 60 global languages to handle the various geographies
- Enabled digital twin of a highly physical offline business with seamless online presence without compromising on customer specific discounts, reaching out to offline contacts, branch offices, field offices, etc.

ABOUT INDIUM

Indium Software is a leading provider of Digital Engineering solutions with deep expertise in Application Engineering, Data and Analytics, Cloud Engineering, DevOps, Digital Assurance and Gaming.

Over the past decade, Indium has built strong relationships with over 100 clients spanning ISVs, Global 2000 as well as born-digital companies across North America, India, Europe and the Asia-pacific region, and with ecosystem partners such as AWS, Mendix, Striim, Denodo and Claris.

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