Success Story

Accelerating software release cycle on AWS and enhancing scalability for Clientela

Customer	Country	Industry
Clientela	United States	E-commerce

About The Client

Clientela is a New York-based technology firm that enables some of the top e-commerce platforms to build powerful connections with their customers driven by up-to-date data insights. Having access to a global database of retail stakeholders, Clientela enables seamless connections between prospects and clients. Using their omnichannel Customer Relationship Management (CRM) solutions, they have completed more than 100 integrations with several Fortune 500 brands.

Technology Stack

Jenkins	AWS WAF	AWS CodeDeploy
AWS Fargate	NGINX	Prometheus

Services Used

DevOps   **AWS CloudFormation**

AWS Consulting

Business Situation

Clientela faced significant operational challenges that stemmed from its reliance on manual processes and an outdated infrastructure management approach.

Clientela's development process was hampered by a complex, multi-branching strategy that was not natively supported by their cloud provider, AWS. This required developers to manually update branches in the CI/CD pipeline for each release. The process was not only time-consuming but also introduced a high risk of human error, leading to delays in product releases and increased time-to-market.

The company's infrastructure was provisioned and managed manually, which was not only inefficient but also failed to leverage the benefits of cloud scalability. As a result, Clientela struggled to dynamically allocate resources to meet the fluctuating demands of its user base. This lack of flexibility led to either over-provisioning (resulting in increased costs) or under-provisioning (resulting in poor user experience during peak loads).

With its expanding user base, Clientela recognized the urgent need to bolster its security posture to safeguard against sophisticated cyber threats. Furthermore, ensuring system reliability and uptime became increasingly challenging as demand grew. The existing setup lacked the robustness to guarantee the high availability and fault tolerance expected by its customers.

To address these challenges, Daffodil Software was expected to:

✓ Develop and implement an automated CI/CD pipeline that supports the existing multi-branching strategy, thus minimizing manual intervention and expediting release cycles.

✓ Transition Clientela's infrastructure management to a more efficient model using Infrastructure as Code (IaC) to enable rapid scaling and resource optimization.

✓ Enhance security protocols with advanced threat detection and response mechanisms, and improve system reliability through architectural improvements that ensure high availability and fault tolerance.

The Solution

Daffodil's DevOps team, in collaboration with Clientela, crafted a multi-faceted approach to address the company's challenges. The solution leveraged a suite of AWS services and tools to streamline processes, enhance security, and ensure scalability and reliability.

✓ **Streamlined CI/CD with Jenkins:**

To improve the CI/CD pipeline, Daffodil Software deployed Jenkins. This enabled Clientela to automate its code building, testing, and deployment phases, thus significantly reducing manual intervention and the associated risks. Jenkins provided the flexibility needed to handle Clientela's multi-branching strategy efficiently, leading to faster and more reliable product releases.

✓ **Enhanced security measures:**

Recognizing the critical importance of security, Daffodil Software fortified Clientela's defenses using the below AWS services:

AWS WAF: The team implemented AWS Web Application Firewall to shield against common web exploits. Custom WAF rules were configured to meet Clientela's specific security needs, preventing potential attacks and ensuring data integrity.

✅ **Scalability and reliability:**

Daffodil Software addressed the scalability and reliability concerns through the following AWS features:

Auto Scaling with CodeDeploy: The use of AWS CodeDeploy automated code deployments to Auto Scaling Groups, allowing Clientela's infrastructure to adapt to usage patterns by scaling resources up or down as needed. This not only improved the user experience during peak loads but also optimized costs during periods of low demand.

Amazon ECS Fargate: For certain projects, Daffodil Software utilized Amazon ECS Fargate, a serverless compute engine for containers. Fargate simplified the deployment and management of applications, allowing Clientela to focus on building and scaling applications without worrying about the underlying infrastructure.

✅ **Monitoring and analytics:**

To maintain high operational standards, Daffodil Software integrated comprehensive monitoring and analytics tools:

Nginx: The team implemented Nginx to act as a web server and load balancer. Nginx helped distribute traffic evenly across Clientela's servers, enhancing the efficiency and reliability of service delivery.

Prometheus and Grafana: Daffodil Software used Prometheus for its robust monitoring capabilities and integrated Grafana for powerful data visualization. Together, these tools provided Clientela with actionable insights into application performance and system health, enabling proactive issue resolution and performance optimization.

The Impact

The strategic implementations spearheaded by Daffodil Software yielded profound impacts for Clientela, including a streamlined CI/CD pipeline through Jenkins, which accelerated code delivery and reduced manual work. Cost efficiencies were realized via optimized infrastructure scaling with AWS CodeDeploy, resulting in significant savings and maintained high availability. Enhanced security measures provided by AWS WAF improved Clientela's defense against web-based threats, preserving data integrity and fortifying customer trust. Reliability and scalability of services were bolstered by smart scaling solutions like Auto Scaling and Amazon ECS Fargate, ensuring seamless user experiences even during demand surges. Additionally, comprehensive monitoring tools such as Nginx, Cloudwatch, Prometheus, and Grafana offered real-time insights for proactive issue management, ultimately driving operational excellence and a robust foundation for Clientela's ongoing growth and market adaptability.