



Migration to
AWS Cloud

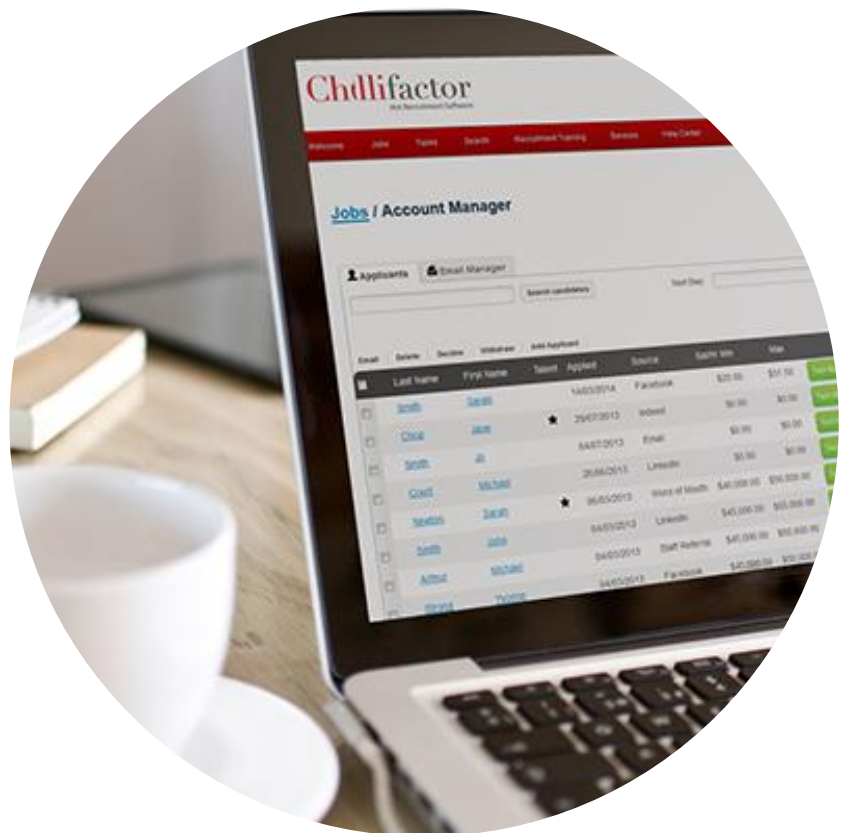
Improving Scalability and
Mitigating Security Threats

QBurst

PROJECT OVERVIEW

As a leading provider of cloud-based recruitment solutions and systems, our client helps small and medium businesses streamline the hiring process. To meet the growing demand for their flagship recruitment solution, it became necessary for our client to migrate their application infrastructure to a robust platform that offered a high level of scalability and security. We recommended migration to AWS cloud for enhanced scalability and reliability.

CLIENT PROFILE



Our client is a cloud-based recruitment solutions and systems provider based in New Zealand. They enable SMEs with technology to source and hire talent with minimal investment in digital infrastructure.

BUSINESS CHALLENGES

- ★ Existing IT infrastructure could not support scalability and performance
- ★ Vulnerability to DDoS attacks; these attacks would slow down the site and prevent users from accessing the application
- ★ Security was a major concern as they handled numerous accounts and leakage of information could result in significant damage to business and reputation

BUSINESS REQUIREMENT

With high growth prospects, the client wanted to move their recruitment software to a more reliable infrastructure that offered better performance and security. Key expectations included:

- ★ High levels of uptime and reliability
- ★ Increased manageability of the system with less human intervention
- ★ Ability to easily scale up or out as needed

QBURST SOLUTION

The key to reducing and stopping DDoS attacks was to utilize a defense-in-depth approach without creating limitations in performance or scalability. We suggested an AWS architecture with Cloudflare WAF/CDN, Bruteforce attack prevention (with Fail2ban), and AWS Security Groups along with EBS data encryption. Failover mechanisms and elastic computing were implemented to ensure optimal performance and better user experience. With a systematic and fool-proof AWS migration, we rectified reported issues on the live site. Our DevOps team rebuilt the code where required. While migrating the recruitment portal, we improved view layouts of several documents such as resumes and contracts. AWS RDS being a dedicated DB engine significantly improved performance. With CDN implemented, latency was scaled down considerably.

HIGHLIGHTS

Environment Setup

We set up three separate AWS Elastic Compute Cloud (EC2) instances for the live, testing, and blog servers. The live server hosts the recruitment portal and is accessible by customers and applicants. The testing server provides a one-click staging site with rollback functionality. A single instance hosts the WordPress blog server that manages the recruitment process. These instances are backed with Amazon Elastic Block Store (EBS) for data and Amazon Simple Storage Service (S3) for snapshot backups.

Deployment

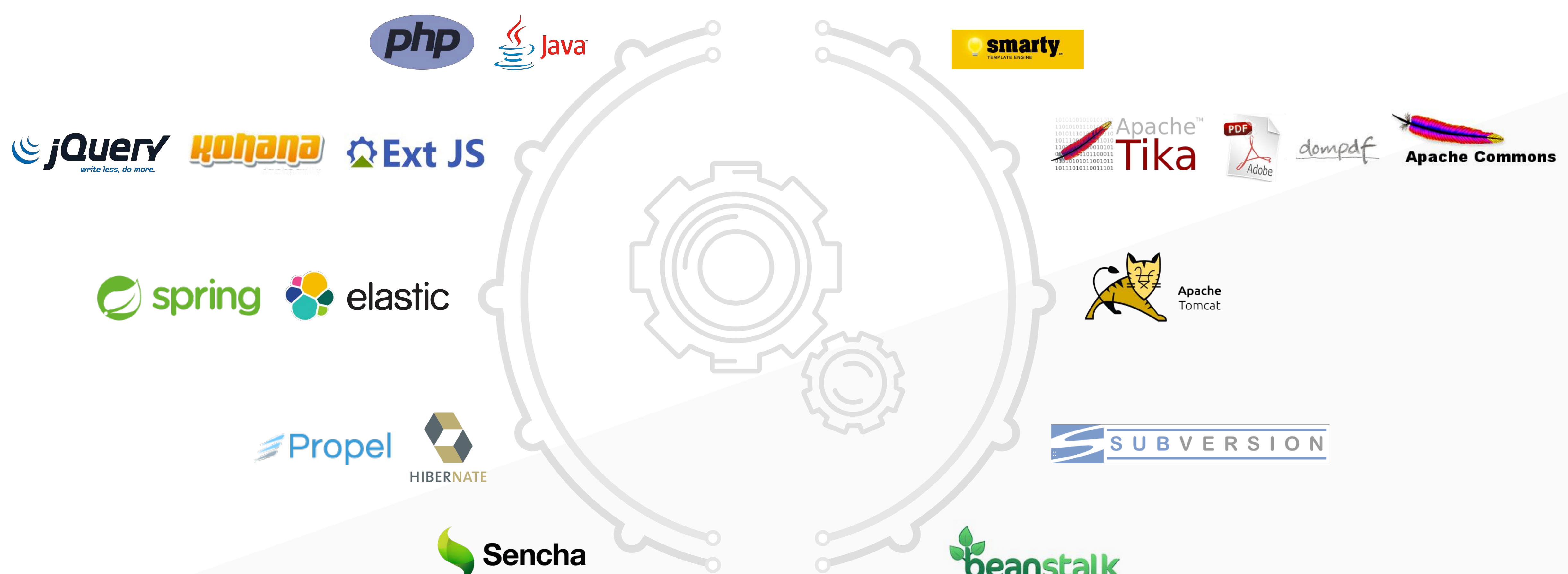
- ★ Migrated three servers from Linode Hosting to AWS
- ★ Migrated development environment with Cloudflare Web Application Firewall (WAF)
- ★ Set up a central RDS database
- ★ Set up cloud security, data encryption, and disaster management mechanism for the new infrastructure

Implementation




- ★ Created VPC for better control of our virtual networking environment; launched a single instance and migrated WordPress site with database to RDS
- ★ Launched parallel instances for both live and testing sites
- ★ Migrated PHP and Java codes along with DB data and tested sites
- ★ Set up ElasticSearch, OpenOffice and JodConverter
- ★ Set up WAF and CDN
- ★ WordPress upgrade, security patches, and Beanstalk configuration
- ★ Set up monitoring with Nagios, New Relic, and Graylog
- ★ Restricted access with AWS VPC and Security Groups, SSH key authentication, and Fail2ban
- ★ Set up AWS EBS volume encryption
- ★ Set up backup configuration for EBS volumes and RDS

TECHNOLOGIES

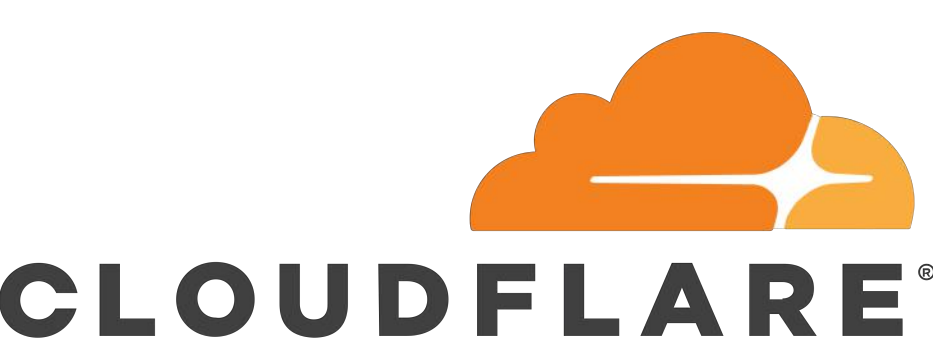
Application-side



AWS Tools

-  EC2: EBS, Data Encryption, Security Groups, Snapshots, AMI, SSH keys
-  VPC: Private, Public Subnets, Security Groups
-  RDS: Snapshots, Security Groups

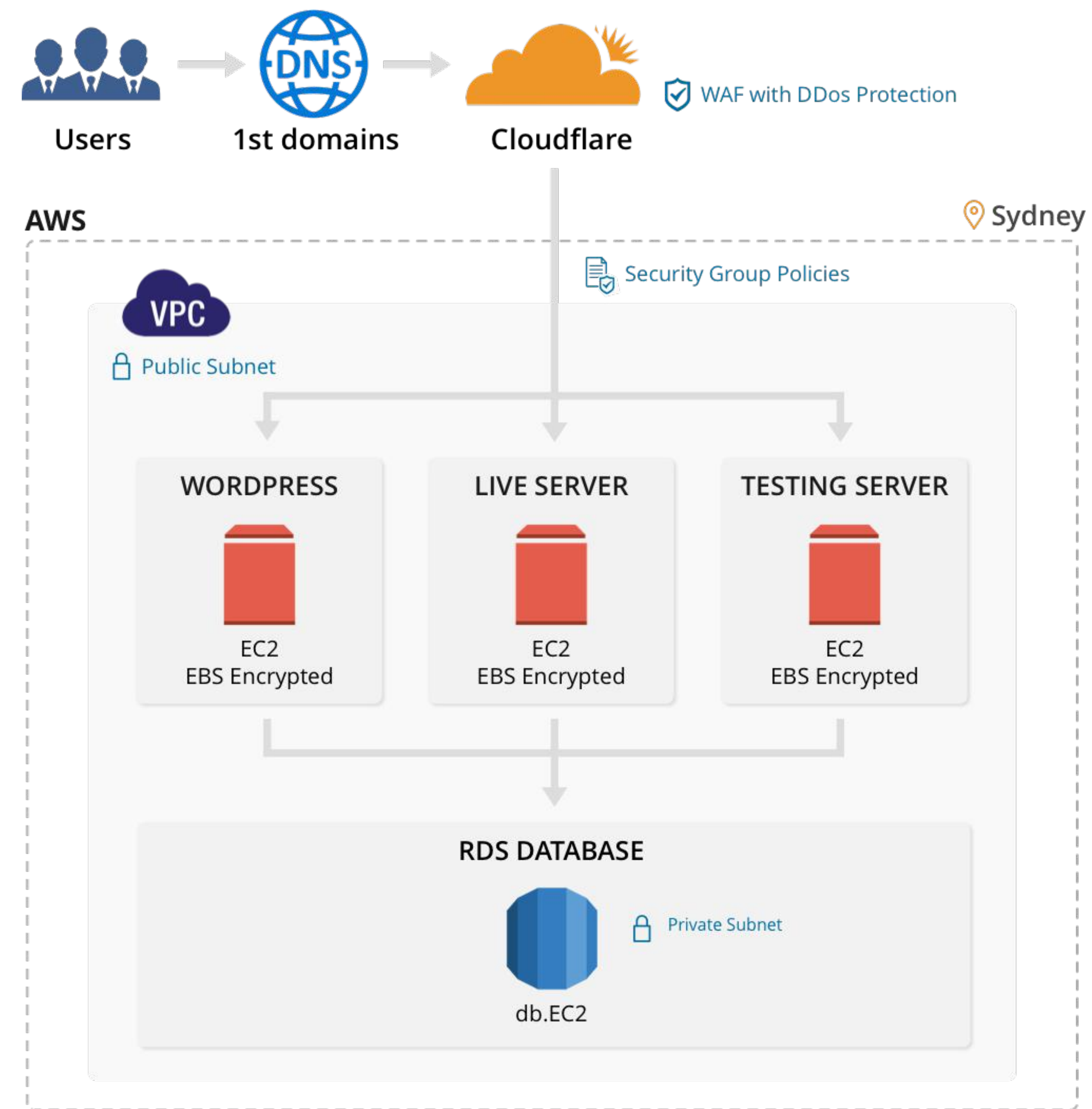
Cloudflare CDN/WAF



BUSINESS BENEFITS

- ★ Applicant record indexing was faster by 43%
- ★ 22% improvement in application response time
- ★ Significantly improved website performance with reduced latency

Infrastructure Setup



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