System Upgrades and Performance Enhancements

Client: Anonymous
Business Size: Corporation
Industry: Publishing
Country: UK
Technology: Java, XML, UML, JBoss, SQL Server, MySQL, HTML

Objective: To upgrade systems and enhance performance

The Brief
A leading global publisher publishes thousands of books, e-book collections, journal articles, and essential online resources annually. The company is dedicated to empowering knowledge creators—fostering connections, supporting communities of scholars, educators, and professionals, and advancing the pursuit of learning and innovation.

Background
A global publishing division is part of a global events, information, and publishing company based in the UK. The division generates annual revenues exceeding £500 million (~$630 million USD), reflecting its strong market position.

Methodology
The project was in need of collaboration between IT and the user area, as replacement reports needed to be developed enabling the successful decommissioning of Business Objects. This needed to be done in a controlled manner jointly by IT Business Objects Support, IT Oracle Developers developing the new reports and the managers of the different end user departments.

Solution and implementation
Considering the need of the client different feature extension and API upgrade was done specially

1. The application was extended with multiple features to provide required services that was requested by the client.
2. Major segregation of different activities of the application into separate modules to improve the maintainability of the application.

3. Use different AWS component ALB, RDS, S3, AWS Lambda functions and Dynamo DB to integrate the system with other system to minimize the manual routine works.
4. Enhance Security to OWASP standards to defend against DDOS attack and other intrusions including IP spoofing.
5. Implement web services to integrate the payment system of the company with the parent group's SAP system.
6. Further enhancements using MuleSoft middleware to interface to SAP and Salesforce to extend customer self-service functionality including real time update of customer data
7. To achieve application performance improvement different optimization technique has been used.

A thorough understanding of the system was essential to address all the issues, requiring strong coordination among all stakeholders. Given the critical nature of minimizing application downtime, a carefully planned and coordinated deployment process was crucial.

Environment: EAP JBoss, Java/J2EE, UML, XML, XSL, LDAP, Highwire Authentication, Apache Solr, String Data AWS, SAP.

Results

Our solution was widely accepted by various stakeholders across the organization. It enhanced the performance, security, and overall robustness of the application. The improvements resulted in significant benefits for the company, as the organization received excellent customer feedback following the application's enhancements.

Consultant Contribution

Worked as a Technical Consultant to understand the customer requirements and developed the necessary enhancement and models with other team members.

Lessons learned

This project leveraged various modern technologies, including AWS, providing an opportunity to implement cutting-edge solutions such as AWS Lambda and DynamoDB.

Collaborating with multiple stakeholders presented its own challenges, requiring clear, consistent communication and thorough

documentation. Keeping all stakeholders informed and engaged throughout the process was essential to the project's success.

Skills and Expertise

Java	Spring MVC, Spring Boot, Spring Batch, Spring Security, Servlet, JSP, Spring Data, Hibernate, Cryptography, Web Services and Swing
Front End	HTML, CSS, EL, Bootstrap, JavaScript, Thymeleaf
Databases	MS SQL Server, MySQL, AWS DynamoDB
Application Server	Apache Tomcat, JBoss, Apache Solr
Other	REST, XML/XSLT, MuleSoft, Agile
AWS technologies	IAM, VPC, EC2, S3, Lambda, CloudWatch, Dynamo DB, RDS, AWS WAF, ECS, API Gateway.
Networking/OS	TCP/IP Protocol, Windows, Ubuntu, AWS VPC.