

## **Application Support**

**Client:** Anonymous

**Business Size:** Corporation

**Industry:** Insurance Company

**Country:** UK

**Technology:** C#, MYSQL, .NET, Oracle, VB .NET, XML

## **Objective: Application Support**

### **The Brief**

A large multi-national insurance company, that specialises in insurance and risk management, has a portfolio of projects under a single Programme.

Projects within this Programme are primarily focused on managing insurance and streamlining workflow processes.

There are two distinct designations for these projects, namely Reinsurance and Specialty, however, other types of projects are also included within this Programme.

### **Projects**

Workflow and Admin Apps (Specialty)

RPF App (Specialty)

Capre Workflow and Admin Apps (Reinsurance)

Capre RPF App (Reinsurance)

Checklist App (Specialty and Reinsurance)

Dashboard App (Specialty and Reinsurance)

FATCA App (Specialty and Reinsurance)

Database Project (DACPAC)

Postman Collection (API Test) Project

Shared Library Project

Windows Schedule Tasks for Reports

## **Background**

The company was formed 1927, and is a global leader in insurance, risk management and consulting services, helping clients face challenges and providing effective solutions.

## **Methodology**

During their tenure at this company, the consultant worked on many different issues and challenges affecting the workflow, development, development of security, testing, and performance of all projects within said Programme.

- 1) Configuration of all environments for all projects, both within the project itself, and in the build and release pipelines on the Azure DevOps side. The configuration issues in all these environments were affecting the CI/CD (Continuous Integration/Continuous Deployment) process across all projects. Here, by adjusting the project configuration settings according to specific environments, we ensured a healthy CI/CD process.
- 2) After resolving the configuration issues for all projects, organised the build and release pipelines for these projects on Azure.
- 3) The Checklist App (Specialty and Reinsurance) is one of the most important projects in the Programme. This app had performance issues and many bugs which required resolution. Major changes were made to the application which included development in both the Frontend, Backend and the Database. These changes resolved most of the bugs and performance issues.
- 4) Vulnerability Issues. The client utilised 2 different tools for vulnerabilities: Veracode and Mend. Vulnerability issues noted during scans were addressed and resolved by various methods.
  - a. Application development.
  - b. Updating the package versions.
  - c. Rectification of bugs in the pipelines created for these tools on Azure.

Below are the Programme projects that were addressed:

Workflow and Admin Applications (Custom)  
RPF Practice (Specialization)  
Capre Workflow and Executive Applications (Reinsurance)  
Capre RPF Application (Reinsurance)  
Checklist Application (Specialization and Reinsurance)

- 5) Finally, we were asked to fix other bugs and performance issues in the remainder of the projects within the Programme Portfolio, updating package versions and rectifying errors in the databases. (Store Procedures etc.).  
Fixed errors in an (API Test) project used for API testing.  
Resolved security issues in a NuGet Shared Library project as well as again updating the package versions.

Windows Schedule Tasks are used for reporting. These Windows Schedule Tasks take certain data from the database, create a report and send it on via email. Errors noted here were also rectified.

### **Solution and implementation**

Backend: .Net4.8, .Net Core  
Frontend: ASP.Net MVC with Kendo (Telerik), Angular, Javascript and JQuery  
Database: MS SQL  
CI/CD: Azure DevOps, Bitbucket  
Security Tool: Veracode, Mend  
Task Management: Jira  
ORM: Entity Framework, Entity Framework Core

### **Consultant Contribution**

As a full-stack developer, responsible for developing the entire development cycle for all the applications in the Programme.

Each project has five different environments.  
Dev, Quality Assurance, UAT, Preprod and Prod.

The Dev environment belongs to developers. Other environments are used for testing – excluding Production.

The following development was performed for each project.

- Workflow and Admin Apps (Specialty) and
- RPF Application (Expertise)
- Capre Workflow and Executive Applications (Reinsurance)
- Capre RPF Application (Reinsurance)

This project contained two differing applications.

Errors, performance issues, and configuration issues were rectified. Also resolved security vulnerabilities and package updates. e.g. upgrading Kendo (Telerik) to the latest version.

- Checklist App (Specialty and Reinsurance)  
In this application, first we changed the application process by making a major flow change. This change helped to rectify a number of bugs and performance configuration issues within the application.

In addition, a change was implemented in Angular and .Net core versions. Upgraded Angular from version 11 to 13, and the .Net core version from 3.1 to .Net 6.

Finally, we rectified security vulnerabilities.

- Dashboard App (Specialty and Reinsurance)  
Resolved configuration issues and updated package to latest version.
- FATCA App (Specialty and Reinsurance)  
Only resolved configuration problems.
- Database Project (DACPAC)  
Added changes and development in the database deployed these changes to the alternate environments. This helped to resolved numerous errors and improved performance.
- Postman Collection (API Test) Project  
Resolved API requests and configuration issues.

- **Shared Library Project**  
Rectified security vulnerabilities and deployed all the changes to NuGet by adding a new version. This was rolled out all applications that used this common library project.
- **Windows Schedule Tasks - Reporting**  
Resolved errors with one Windows task and wrote one new task.

### **Lessons Learned**

Although many of the applications in this Programmes are somewhat older and all the logical operations are performed on the database using Store Procedures, the assignment was enjoyable.

The team was of a high quality, and we all learnt by sharing knowledge between differing teams.

Cross-team communication was excellent which helped build confidence overall.