# Enhancing Application Stability and User Experience for a **Leading Insurance Company**

## The Overview

The client's business-critical document management application lets users upload documents through email and application workflows, and search and retrieve them using policy information. Inadev's support team focused on improving application reliability, reducing manual operational effort, improving response times, and strengthening the end-user experience.

## The Problem

Recurring application, database, mailbox, and infrastructure issues were affecting support efficiency and user experience. The team investigated root causes and implemented targeted corrective and preventive actions.



- **Incorrect document classification :** Documents submitted through the dedicated email upload channel were sometimes assigned the wrong document type and document group.
- **Recurring production disk-space alerts:** The application's production servers D: drive reached around 80% utilization several times each month, leading to repeated service requests for cleanup.
- **Mailbox capacity constraints:** The mailbox repeatedly reached approximately 98% capacity, requiring manual deletion of emails to keep automated email uploads working.
- **Slow and unreliable file APIs:** Existing upload and download APIs were slow and had a high failure rate, adding load to the application.

- **Slow policy search and upload-session failures:** Searching by policy number took around 2–3 minutes. During uploads, users could also encounter errors or be logged out because session handling was inconsistent.



## Actions Taken

- **Document classification fallback:** Root-cause analysis found that the GC stored procedure could return a claim number of 0. The application logic was updated so that when the claim number is 0, document type and document group are assigned using the existing business logic.
- **Automated disk cleanup:** A PowerShell script was implemented to delete eligible files every two hours, reducing the need for repeated manual D: drive cleanup requests.
- **Automated mailbox retention:** After discussions with the client's IT team, Microsoft was engaged to address the mailbox limitation. Through iterative testing, a retention policy was configured to automatically remove older emails from Inbox, Deleted Items, and Archive, retaining only the latest seven days.
- **AWS pre-signed URL APIs:** Two new APIs were developed to upload and download files using AWS pre-signed URLs, reducing application-side load and improving the file-transfer approach.
- **Policy search query and index optimization:** Unnecessary query joins were removed. Because the existing DeleteFlag column was a varchar field, a new DeleteFlagNew column was added and indexed to support more efficient filtering.
- **Session handling improvements:** Session handling was reviewed and managed across the website modules to address upload errors and unexpected logouts. The reported incident count reduced by approximately 70% following this improvement.

## Business and Operational Impact

Reduced recurring manual intervention for production D: drive cleanup through scheduled automation.

Reduced daily manual mailbox maintenance by introducing automated seven-day email retention.

Introduced AWS pre-signed URL APIs to reduce application load and improve file-transfer reliability.

Improved policy-number search performance by simplifying the query and adding an index.

Improved upload-session stability across modules; the reported incident count reduced by approximately 70%.

Added a fallback for claim number 0 to prevent incorrect document classification.



## Sustaining the Improvements

- Monitor disk utilization, mailbox size, API response times, policy-search performance, and incident trends.
- Maintain logs and alerts for scheduled cleanup, retention-policy execution, and API failures.
- Validate the reported incident reduction against the service desk baseline and reporting period before using it in formal KPI reporting.