

PAUL POPA

LEAD SOFTWARE ENGINEER

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paul-popa-portfolio.pages.dev

CORE STACK
Java 21 (LTS) · Spring Boot 3

INFRASTRUCTURE
End-to-end Terraform · EKS

CLOUD
AWS current · Azure certified

DELIVERY
Greenfield · regulated enterprise

PROFILE

Lead Software Engineer on TSB Bank's multi-year financial-crime modernisation: a greenfield **Python / AWS** serverless screening platform and a **Java 21 (LTS) / Spring Boot 3** event-driven integration running containerised on Amazon EKS, with the estate delivered as **Terraform** IaC across four environments. Seven years of Java across regulated banking, high-throughput publishing and UK government programmes, with cloud experience spanning deep current **AWS** practice and certified, hands-on **Azure** delivery (AZ-204, AZ-900). Test-driven and quality-first; owns architecture and low-level design, leads code review and mentoring, and conveys technical and abstract principles to technical and non-technical audiences.

CORE SKILLS

JAVA	Java 21 (LTS), 17, 11 · Spring Boot 3 · Spring · Vert.x
PYTHON & C/C++	Python (Lambdas, Glue / PySpark ETL) · C/C++
AZURE	AZ-204 & AZ-900 certified · Service Bus · Event Hub · Functions · Key Vault · App Insights
AWS	Lambda · Glue (PySpark) · Step Functions · EventBridge · SQS/SNS · S3 · API Gateway · EKS · KMS · Iceberg
IAC & CONTAINERS	Terraform (multi-env modules, remote state) · Docker · Kubernetes (Amazon EKS) · Helm · Jenkins
ARCHITECTURE	Event-driven · microservices · serverless/containerised · Kafka · C4 modelling
QUALITY	TDD · automated testing · code review · SonarQube · Veracode · Agile / Scrum
DATA	MySQL · MongoDB · Apache Iceberg
AI-ASSISTED ENGINEERING	Daily use of Claude Code for implementation, refactoring, and architectural exploration

EXPERIENCE

Lead Software Engineer

TSB Bank · FinCrime Modernisation

Mar 2024 – Present
Birmingham · Hybrid

- Lead engineer on a greenfield AML screening platform (**NICE Actimize WLX**) replacing legacy mainframe infrastructure — owning architecture and end-to-end delivery, and authoring the low-level design for the event-driven feed and daily-batch pipeline.
- Automated all infrastructure through **Terraform**: reusable, composable modules; isolated remote state across four environments; customer-managed KMS with rotation; least-privilege IAM chains (EventBridge → Step Functions → Lambda → Glue).
- Own the architecture and low-level design for the event-driven Featurespace fraud-outbound integration — service boundaries, Kafka topic design, event routing, and retry/failover strategy — in **Java 21 (LTS) / Spring Boot 3** on **Amazon EKS**.
- Designed an architecture-level BDD testing strategy (**Cucumber-JVM**): services and stubbed externals validated end-to-end over Kafka, containerised as Kubernetes Jobs and gated into the Jenkins pipeline with automatic rollback.
- Architected the hybrid serverless pipeline: EventBridge-triggered ingestion, Step Functions with parallel Map-state processing, and Lambda + AWS Glue (**PySpark**) compute over Apache Iceberg state tables.
- Delivered a serverless regulatory-reporting pipeline for NCA SAR submission — **Python** Lambdas, SQS, OAuth2 client-credentials to an external regulator API, Iceberg state — replacing an on-prem Spring Boot batch service.
- Built a shared Spring Boot library for reusable, certificate-managed **WebClient** instances, adopted across multiple TSB services.
- Own deployments in a DevOps model — Jenkins/Terraform plan-apply, SonarQube/Veracode gates — lead code review and mentoring.

● EXPERIENCE — CONTINUED

Senior Software Engineer

Mar 2022 – Jan 2024

Echobox · AI publishing platform

London · Remote

- Built the Echobox Social platform in **Java on Vert.x** — asynchronous, non-blocking concurrency for high throughput — with React, MySQL and MongoDB on AWS; a microservice architecture enforcing validation and authorisation at every endpoint.
- Designed an event-driven community-management system on AWS SQS, Lambda and CloudWatch, batching events to reduce processing cost.
- Implemented asynchronous webhook processing — event-signature validation, (de)serialisation and safe persistence — and integrated the Instagram Graph and TikTok APIs.
- Performance-tuned the platform: led a MongoDB upgrade across replica sets and optimised query paths (Morphia) for throughput.

Senior Software Engineer

Jan 2021 – Feb 2022

Associate Software Engineer

Aug 2019 – Jan 2021

Kainos · UK government software

Birmingham · Hybrid

- Recruited into Kainos in 2019 after winning their AI Summer Camp hackathon (2018) — trained a neural network from scratch in **Keras** on a labelled dataset of handwritten letters and numbers, to digitise handwritten maths papers.
- Built segments of IPAFFS, a UK government import system, in **Java with Spring and Spring Boot 2.x** on MySQL, and contributed to the Government Gateway (Node.js, MongoDB).
- Developed and maintained REST and SOAP microservices (WSDL/XML) within a wider enterprise government platform.
- Worked hands-on across **Azure** — Service Bus, Event Hub, Functions, App Insights, Key Vault — integrating services and monitoring live systems, with deployments as code (ARM templates, PowerShell) and Jenkins pipelines gated by SonarQube.
- Shadowed the technical and solution architects designing the **NHS App** from scratch, contributing **C4**-style diagrams of edge microservice communication.

● BEYOND WORK

Volunteer engineer for the **Night Before Christmas Campaign** (Scottish registered charity SC047995 · **nbcc.scot**) — gifts and vital support for children, young people and vulnerable adults across South West Scotland.

- Built and operate the charity's website end-to-end: **Stripe** payments, magic-link auth, and admin tooling.
- Containerised the platform with **Docker**, deployed on **AWS Fargate** and provisioned through **Terraform**; releases run via **GitHub Actions** through a dev → staging → production pipeline.
- Test-driven: **TDD**, plus a **BDD** gate — mocked Stripe in dev, sandbox Stripe in staging — blocking prod deploys until both pass.
- Used **Claude Code** to accelerate solo development end-to-end — scaffolding, refactoring and documentation — while retaining ownership of architecture and engineering decisions.

● EDUCATION

University of Birmingham

MEng Computer Science with Industrial Year (67%)

2014 – 2019

Coursework: Machine Learning & Intelligent Data Analysis · Distributed & Parallel Computing · Systems Programming in C/C++ · Networks

“Alexandru Cuza” College

Computer Science & Mathematics (90%)

2010 – 2014

● CERTIFICATIONS

- **AZ-204** · Developing Solutions for Microsoft Azure
- **AZ-900** · Microsoft Azure Fundamentals
- **Boomi Associate Integration Developer**
- **CMI Level 5** · Management & Leadership (in progress)

LANGUAGES

English · Romanian