

Luqman (Luke) Samad

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Principal Software Engineer | Lead Full Stack Architect | Staff Engineer

Technical Summary

Hands-on **Principal Software Engineer** and **Lead Full-Stack Architect** with 18+ years of experience architecting, building, and optimizing high-scale enterprise systems, cloud-native microservices, and modern web applications. Proven expert in modernizing monolithic legacy applications into decoupled, high-performance architectures utilizing **Java (4/5/6/8/17/21), Spring Boot 3, Node.js, Python 3, React Micro Frontends (MFEs), Angular, and AWS/Azure Kubernetes ecosystems**. Architected key enterprise Digital Platform engines including **Employee Billing, Operational Reporting, Employee & Merchant Onboarding, Benefit Enrollment, and High-Traffic Customer Portals**. Technical leader who provides architectural vision, guides 5 Tech Leads and cross-functional engineering teams (40+ developers), and pioneers AI-driven development workflows (**metID, GitHub Copilot**, autonomous testing agents) to maximize delivery speed, quality, and security.

Core Technical Expertise

- **Languages & Runtimes:** Java (4/5/6/8/17/21), TypeScript, JavaScript, Node.js, Python 3, Groovy, SQL, Shell Scripting (Bash), HTML5/CSS3, ColdFusion, .NET.
- **Frameworks & Libraries:** Spring Boot 3, Spring MVC, Spring Security, React, Angular (2+), AngularJS, Express.js, Hibernate/JPA, MyBatis, JDBC, Apache Camel, Struts (1/2), GWT, JSF, RichFaces, JBoss Seam, EJB (2/3), CXF, JAX-WS/RS, Axis 1.3, Freemarker, jQuery, Bootstrap.
- **Architecture & Paradigms:** Cloud-Native Microservices, Micro-Frontends (MFE), Event-Driven Architecture, Service-Oriented Architecture (SOA), Domain-Driven Design (DDD), API Gateways (Kong, WSO2), Distributed Caching (Redis), Decoupled Monoliths, Database Sharding & Decoupling.
- **Cloud, Containerization & DevOps:** AWS (EKS, EC2, RDS, Beanstalk, S3), Azure (AKS, Azure AD, Functions), Kubernetes, Docker, Helm, Terraform, Jenkins, Azure DevOps, GitHub Enterprise, Ansible, Puppet, Hudson, Ant, Maven, Gradle, JFrog Artifactory, Sonatype Nexus.
- **Data, Storage & Messaging:** PostgreSQL, Oracle (9i/10g/11g/19c), SQL Server, DB2, Informix, Redis, Kafka, RabbitMQ, Elasticsearch, Solr, Logstash, WSO2 ESB, Apache Camel.

- **Security, Compliance & Identity:** OAuth2, JWT, Keycloak, Kong, Veracode, Prisma, Fortify, FedRAMP, SAML, SSO (PeopleSoft/SharePoint), CIS, OWASP, ADA Compliance, Penetration Testing SLAs (0-day/30-day/90-day).
- **Observability, AI & Testing:** Splunk, Elastic, Datadog, AppDynamics, SonarQube, JUnit, Mockito, EasyMock, PowerMock, Selenium, HTTPUnit, JMeter, metID (MetIQ LLM), GitHub Copilot, Autonomous Agents.

Projects & Professional Experience

MetLife – Lead Full Stack Software Engineer / Application Development Project Manager (Nov 2024 – Present)

- **Digital Platform Architectural Transformation:** Orchestrating the end-to-end modernization of MetLife’s Employer Digital Platform, replacing legacy J2EE/React architectures with a unified stack of **Spring Boot 3** microservices and **React Micro Frontends (MFE)**.
- **Monolith Decoupling & System Separation:** Leading the technical architecture to split massive monolithic codebases (**Employee, Employer, Disability, Billing, Reporting, Enrollment, Onboarding**) into independent microservice clusters, eliminating release dependencies and reducing deployment build times by 40%.
- **Architectural Leadership Across Teams:** Defining technical architecture patterns and feature specifications for **5 Tech Leads** and 5+ cross-functional teams (40+ engineers), serving as the core engineering authority across the platform.
- **Code Quality & CI/CD Pipeline Governance:** Enforced strict **Sonar** quality gates and test coverage thresholds across all repositories; re-engineered vulnerability and flaw remediation processes for continuous delivery, managing automated release velocity via the “**Bullet Train**” pipeline, **Azure DevOps**, and containerized **Azure Kubernetes Service (AKS)** with Helm rollouts.
- **AI-Driven Code Translation & Refactoring:** Engineered an AI-assisted rewrite methodology utilizing **metID (MetIQ LLM)** and advanced prompt engineering to evaluate reference codebases and automatically translate legacy code into modern microservices and React components; executed multi-month debugging, bug elimination, and architectural cleanup while building custom **Node.js/Python** autonomous agents for **ADA compliance** verification, Gulp-to-Webpack build migrations, and API mock virtualization.
- **Penetration Testing & Security SLA Enforcement:** Orchestrated technical security remediation across all codebases following client penetration testing audits, provisioning test accounts/data and driving fixes under strict SLAs (Critical: 0-day, High: 30-day, Medium: 90-day); eliminated 100% of security flaws across **Veracode, Prisma**, and Pen Testing findings within a 3-month mandate.
- **End-to-End Tracing & Observability Architecture:** Engineered full-stack distributed tracing across all React Micro Frontends and Spring Boot microservices, establishing complete HTTP call and database transaction traceability; led the enterprise migration off AppDynamics to **Elastic**, configuring **Splunk** for centralized log aggregation, telemetry, and real-time incident diagnosis.

Technologies: Java 17/21, Spring Boot 3, Node.js, Python 3, React, Webpack, Azure, AKS, Kubernetes, GitHub Enterprise, AzDO, GitHub Copilot, metID, Splunk, Redis, AEM.

Fidelity Investments – Principal Software Engineer (March 2022 – Oct 2024)

- **High-Throughput Microservice Architecture:** Architected high-performance technical solutions for critical **Enrollment, Distributions, and Tax Elections** platforms using **Java 17/21** and **Spring Boot** in the Non-Qualified (Non-Qual) retirement space.
- **Full-Stack Legacy Migration:** Led the complete refactoring of legacy **Spring MVC** monoliths into containerized **Spring Boot microservices** and **Node.js** services running on **AWS EKS**.
- **EAI & Financial Service Integration:** Engineered messaging and integration routes using **Apache Camel**, streamlining multi-system financial workflows and automated transaction reporting.
- **Distributed Caching & Telemetry Tuning:** Implemented **Redis** distributed caching strategies for high-frequency data access and integrated **Splunk** monitoring for real-time telemetry, increasing API throughput by 35%.
- **Quality Standards & Engineering Mentorship:** Scaled engineering best practices across teams by instituting mandatory **Test-Driven Development (TDD)**, peer code reviews, and automated **Jenkins/GitHub** release pipelines.
- **Frontend Engineering Architecture:** Scaled responsive financial frontend interfaces utilizing **Angular** and **Adobe Experience Manager (AEM)**.

Technologies: Java 17/21, Spring Boot, Node.js, Angular, Apache Camel, AWS EKS, Kubernetes, GitHub, Jenkins, Splunk, Redis, AEM.

ERP International LLC – Senior Application Architect (Dec 2020 – March 2022)

- **Cloud Microservices Engineering:** Designed and implemented a scalable, cloud-agnostic microservice platform using **Java 8/Spring Boot** containerized on **Azure Kubernetes Service (AKS)**.
- **Frontend Architecture Overhaul:** Led the technical migration from **AngularJS to React**, designing a modular component library and modern state management patterns.
- **IaC & Security Integration:** Authored **Terraform** scripts for automated infrastructure provisioning and integrated **Keycloak** with **Kong API Gateway** for enterprise OAuth2 authentication.
- **Database Query Optimization:** Optimized complex **PostgreSQL** stored procedures, triggers, indexes, and execution plans, resolving data bottlenecks and improving query execution times by 50%.

Technologies: Java 8, Spring Boot, Azure, AKS, Kubernetes, Terraform, Git, Postgres, Maven, Gradle, Jenkins, React, AngularJS, Kafka, Keycloak, Kong, Puppet, Logstash, Elasticsearch.

Bank of America Merchant Services – Senior Java Full-Stack Engineer (Aug 2019 – Dec 2020)

- **E-Commerce & Merchant Onboarding Engine:** Architected **Spring Boot** microservices powering the digital storefront, shopping cart checkout, and merchant **Onboarding** flows for **Clover** payment systems.
- **Payment Processing REST Services:** Designed resilient RESTful services for payment processing, containerized and deployed on **Azure Kubernetes Service (AKS)**.
- **Identity Governance & Admin Portal:** Built a secure **OAuth2** identity framework (Spring Security, Azure AD, JWT, serverless Azure Functions) and a full-stack **Angular / Spring Boot** administration suite for merchant onboarding and enrollment management.
- **Automated Integration Testing Suite:** Built and maintained integration testing suites using **Python 3** clients to validate end-to-end transaction flows, payment gateway APIs, and system reliability under load.
- **Decoupled Storefront Architecture:** Drove system decoupling for high-traffic merchant acquisition portals, achieving low latency and high availability.

Technologies: Java, Spring Boot, Angular, Azure, AKS, Azure AD, OAuth2, JWT, Azure Functions, Python 3, REST APIs, Spring Security.

Federal Reserve Bank – Java Developer / DevOps Engineer (March 2019 – June 2019)

- **National Artifact Migration:** Executed a seamless migration of national artifact repositories from **Nexus** to **JFrog Artifactory** with zero developer downtime and 100% data integrity.
- **CI/CD Pipeline Automation:** Architected automated build and deployment pipelines using **Jenkins, Groovy, and Shell scripts** for high-security federal applications.
- **Identity & Access Tooling:** Engineered a custom **Java LDAP automation tool** to modernize user onboarding, system monitoring, and cross-platform integrity checks.
- **DevOps Infrastructure Hardening:** Managed and hardened core infrastructure components including **GitHub, Fortify, and Nexus**, providing expert troubleshooting for a national-scale service team.

Technologies: Java, Groovy, Jenkins, JFrog Artifactory, Sonatype Nexus, GitHub, Fortify, LDAP, Shell Scripting, Linux.

Audible (Amazon) – Senior Java Engineer (Sept 2018 – March 2019)

- **Zero-Downtime Data Architecture Shift:** Led the database decoupling effort for the “Amazon Rolling Stone” initiative, migrating a monolithic **Oracle** database to distributed **PostgreSQL** on AWS RDS.
- **Data Parity & Batch Orchestration:** Engineered Java batch synchronization services and automated comparison scripts to ensure 100% record integrity during live traffic cut-over with zero system downtime.
- **Microservices Modernization:** Designed and deployed new Java microservices supporting decentralized data architecture for Audible content delivery.

- **Resiliency & Regression Testing:** Authored integration and regression test suites using **EasyMock**, **Mockito**, and **PowerMock** to harden architecture under high-traffic migration scenarios.

Technologies: AWS RDS, EC2, Java 8, Oracle, Spring, Postgres, Hibernate, EasyMock, Mockito, PowerMock, Amazon Native Tooling (Brazil).

Monster.com – Application Architect / Senior Developer (March 2012 – Sept 2018)

- **Federal SaaS Platform Engineering:** Led full-stack development of a global HR SaaS product for **45+ US Federal Agencies** using **Java, Spring, and JDBC/JPA/MyBatis** across multiple product rewrites, ensuring compliance with **FedRAMP, CIS, and OWASP** standards.
- **Framework Modernization:** Directed the migration from **Struts 1/2** to **Spring Boot REST APIs** and **Angular (2+)**; built reference implementations for recruitment, onboarding, and reporting modules.
- **AWS Cloud & F5 Load Balancing:** Deployed AWS infrastructure using **Beanstalk, Docker, and F5** for load balancing and high availability.
- **DevOps & Internal Tooling:** Engineered custom internal tools including a **Java-based AWS Management Dashboard** and automated server provisioning, certificate management, and **Solr Search** deployments using **Ansible, Groovy, and Jenkins**.
- **Security & SAML Hardening:** Enhanced system security through **SAML** integrations, auditing, encryption, and custom vendor authentication flows.
- **ESB & Middleware Integration:** Led SOA Enterprise Service Bus migration from Oracle OWSM to **WSO2**; developed complex **Groovy ETL** jobs using **SOAP and JAX-WS/RS**.
- **Database Query Optimization:** Optimized high-volume **Oracle** stored procedures and analytics queries, significantly reducing operational overhead for large-scale database installations.
- **Agile Workflow Integration:** Integrated **Slack** notifications into automated deployment pipelines and managed workflows via the **Atlassian Suite (Jira/Confluence)**.

Technologies: AWS, Solr, Tomcat, WSO2, F5, Angular 2+, Struts 1/2, Spring Boot, JDBC, JPA, MyBatis, Oracle, Jenkins, Maven, CXF, Java, Groovy, Freemarker, jQuery, Bootstrap, CSS, HTML, REST, SOAP, JAX-WS/RS, Terracotta.

Red Hat – Solutions Consultant & Architect (July 2009 – March 2012)

- **Enterprise Middleware Strategy:** Delivered architectural consulting for federal and commercial clients specializing in **JBoss EAP** and **SOA-P** migrations, modernization, and performance tuning.
- **USPTO Revenue System Architecture:** Architected the next-generation stack for the Revenue Accounting and Management System (RAM) using **Spring, CXF, and GWT**; served as lead developer and integration specialist.
- **CDC Middleware Migration:** Orchestrated large-scale **WebLogic-to-JBoss** migrations and cluster optimizations, resolving application bottlenecks and providing technical mentorship to administrative teams.

- **US Courts System Architecture:** Served as principal architect for mission-critical judicial applications leveraging **JBoss Seam, JSF/RichFaces, JMS, and JPA on DB2** environments.
- **GEICO Application Transformation:** Transformed legacy **Swing** applications into modern web platforms integrating **Spring, RichFaces, and JPA** while establishing development team standards.

Technologies: JBoss EAP/SOA-P, RHEL, Spring, GWT, JPA, RestEasy, Maven, Apache Velocity, CXF, SQL Server, IIS, JMeter, RichFaces, Seam, Drools, EJB3, SOAP, JAX-WS/RS/RPC, Ant, SVN, Oracle, DB2, JSF, Hibernate, Axis, Selenium, Hudson.

Lockheed Martin – Solutions Architect (Jan 2008 – July 2009)

- **Architectural Oversight & Legacy Refactoring:** Provided technical leadership for analyzing, maintaining, and refactoring legacy Java applications and complex **Oracle** stored procedures.
- **SOA Web Services Engineering:** Designed and guided implementation of web services leveraging **Axis 1.3, JPA, and Hibernate** for cross-system interoperability.
- **CI/CD Pipeline Engineering:** Optimized build and deployment workflows by authoring **Ant** and **Maven** scripts; established **Hudson** for automated continuous integration across Java and ColdFusion environments.
- **Testing & Quality Governance:** Defined testing strategies and ensured code integrity through unit and integration test suites using **JUnit, HTTPUnit, and Selenium**.
- **Web Framework Design:** Architected enterprise web applications utilizing **JSF** and **Struts** frameworks.

Technologies: Windows XP, RHEL, Tomcat, OC4J, Oracle 10g, JDeveloper, Hibernate, JPA, JSF, Struts, JUnit, Ant, Maven 2, Java 4/5/6, Eclipse, CVS/SVN, Hudson, TOAD, Cognos, ColdFusion, .NET.

Actuate – Staff Consultant (April 2007 – Jan 2008)

- **Security & Identity Integration (GEICO):** Designed complex security extensions for **GEICO**, integrating **PeopleSoft** and **SharePoint** for Single-Sign-On (SSO) and Page-Level Security.
- **Enterprise Reporting Infrastructure:** Re-engineered the **Marriott Hotels** Report Server security extension and performed requirements analysis for the **US Foods** enterprise Actuate upgrade.
- **Application Management:** Maintained the **iPortal J2EE** application, managed source control, and developed HR performance reports.

Technologies: Windows XP/2000, SVN, Actuate e.Report/e.Spreadsheet Designer, Actuate iServer/iPortal, PeopleSoft, Oracle 9i/10g, Informix.

BearingPoint – Senior Systems Analyst (April 2006 – April 2007)

- **J2EE Module Leadership (PCARSS):** Served as key developer for the **PCARSS** (Plant Clearance Automation and Reutilization Screening System), leading development of two major modules for government property redistribution.

- **Data Modeling & UI Engineering:** Utilized **Hibernate** for data modeling and **JSF** for building user interfaces enabling real-time tracking of government assets.
- **Full SDLC Contribution:** Drove development from requirements through deployment in a **Tomcat** and **Oracle Application Server** environment.

Technologies: Windows XP, Tomcat, Oracle Application Server, Oracle 10g, Hibernate, JSF, JUnit 4.0, Ant, Java 4/5, Eclipse, SVN, Cruise Control.

Iogen Technologies – Java Programmer (Jan 2006 – April 2006)

- **NIH Grants Management Scaling:** Scaled the User Administration module of a Grants Management application for the **National Institute of Health (NIH)** using **Struts, EJB, and JDBC**.
- **Persistence & Data Access:** Optimizing database interactions within an **Oracle 9i** environment to improve system performance and user workflows.

Technologies: Windows XP, OC4J, Oracle 9i, Struts, JDBC, EJB, JavaScript, Log4j, Eclipse, Clearcase.

Education

Bachelor of Business Administration in Computer Information Systems (2004)
Texas State University – San Marcos, TX