

Le Quoc Tuan

Principal Software Engineer & Cloud/Data Architect *Ho Chi Minh City* | +84914111023 | tuanlq.it@gmail.com

Professional Summary

A results-driven and highly accomplished Principal Software Engineer and Architect with over a decade of hands-on experience in designing, developing, and deploying complex, scalable, and high-availability systems. Possesses deep expertise in microservices architecture, cloud-native infrastructure on AWS, and data engineering. Proven leadership capabilities in managing engineering teams, defining technical roadmaps, and driving the entire software development lifecycle within an Agile/Scrum framework. Specialized in building sophisticated platforms for e-commerce, social media, loyalty programs, and real-time media streaming, with a recent focus on architecting and implementing large-scale data lake solutions.

Core Competencies & Technical Skills

- **System Architecture:** Microservices Design, High-Availability & Scalable Systems, Distributed Systems, Event-Driven Architecture, Data Consistency Patterns (Saga, Distributed Locking).
 - **Cloud & DevOps:**
 - **AWS:** Amazon EKS, MSK, ECS, Lambda, Step Functions, SQS, SNS, EventBridge, CloudWatch, EC2 & AutoScaling, API Gateway, S3, RDS.
 - **CI/CD:** Jenkins, Bitbucket Pipelines, Firebase, JFrog, Fastlane.
 - **Containerization:** Docker, Kubernetes (K8S).
 - **Google Cloud:** Google Kubernetes Engine (GKE), Pub/Sub, BigQuery.
 - **Data Engineering:**
 - **Data Warehousing:** ClickHouse, BigQuery.
 - **Data Orchestration:** Apache Airflow.
 - **BI & Visualization:** Apache Superset.
 - **ETL Pipeline Development:** Ingesting and processing large-scale transactional data.
 - **Backend Development:**
 - **Languages:** Java, NodeJS, PHP.
 - **Frameworks:** Spring Framework, KoaJS, Laravel, Phalcon.
 - **Databases:** PostgreSQL, MySQL, Redis, Hazelcast.
 - **APIs & ORMs:** GraphQL, Sequelize ORM.
 - **Frontend Development:** ReactJS, AngularJS.
 - **Methodologies:** Agile, Scrum.
-

Professional Experience

Engineering Manager | TAPTAP | *December 2022 – Present*

As the Engineering Manager, I lead the technical direction and development for a B2C loyalty system that provides cashback functionalities and integrates with a wide network of merchants. My role involves a blend of high-level architecture for both application and data systems, team leadership, and hands-on technical implementation.

Key Responsibilities & Achievements:

- **Data Lake Architecture:** Architected and implemented a scalable data lake solution using ClickHouse and BigQuery to ingest and process massive volumes of transactional and user-behavior data. This initiative provides the backbone for advanced analytics and business intelligence, visualized through Apache Superset.
- **ETL Pipeline Orchestration:** Developed and managed complex data pipelines using Apache Airflow to automate sophisticated ETL processes. This ensures the reliable, timely, and accurate delivery of data from various microservices into the central data lake.
- **Advanced Concurrency Control:** Enhanced system reliability and data consistency by implementing advanced concurrency control mechanisms. This included applying the Saga pattern for managing distributed transactions and utilizing Distributed Locks to prevent race conditions and ensure data integrity during high-demand operations like flash sales.
- **Architectural Leadership:** Spearheaded the end-to-end design of a distributed system built on a Kubernetes (EKS) microservices architecture, defining both the high-level software patterns and the underlying cloud infrastructure to ensure scalability and resilience.
- **System Observability:** Designed and established a comprehensive system-wide tracing solution using OpenTelemetry, which significantly reduced mean-time-to-resolution (MTTR) for production issues and provided real-time insights into application performance bottlenecks.
- **Agile & Team Leadership:** Drove the team's Scrum process, effectively prioritizing the product backlog, removing technical blockers, and mentoring developers to overcome complex challenges in a distributed systems environment.

Technologies Used: Java, ReactJS, Microservices, Kubernetes (AWS EKS), ClickHouse, BigQuery, Apache Superset, Apache Airflow, AWS MSK, ECS, EventBridge, CloudWatch, Step Functions, SQS, SNS, Hazelcast, Redis, Jenkins.

Solution Architect & Head of Engineering | Travel Social Platform (VNTravel) | Oct 2020 – September 2022

In this dual role, I built a 30-member technology department from the ground up and directed the architecture for a large-scale social platform tailored for the travel industry.

Key Responsibilities & Achievements:

- **Team Building & Competency Development:** Established a high-performing technology team by leading the hiring process and fostering team growth. Built core competencies in modern engineering practices by providing technical coaching, mentorship, and establishing clear career development paths.
- **Platform Architecture:** Architected the entire social media platform, designing and leading the development of scalable, resilient **Java-based microservices** to power all core functionalities, including user news feeds, short-form video content delivery, and a robust live streaming service (RTMP/HLS).
- **Mobile Technical Leadership:** Served as the key technical supervisor and consultant for the native mobile teams (Android/iOS), ensuring best practices in mobile development and seamless integration with the backend microservices.
- **Cloud Infrastructure:** Designed the complete system infrastructure on Google Cloud Platform, leveraging services like Google Kubernetes Engine (GKE) for container orchestration, Pub/Sub for

asynchronous event-driven messaging, and BigQuery for data analytics and business reporting.

- **Process Implementation:** Championed and implemented the Agile/Scrum software development methodology across the team to foster rapid iteration and ensure high-quality, on-time delivery of complex features.

Technologies Used: Java, ReactJS, Microservices, Google Cloud (GKE, Pub/Sub, BigQuery), Cloudflare Media Streaming, Bitbucket Pipelines, Firebase, JFrog, Fastlane.

Technical Architect | E-Commerce Platform (Indonesia) | *January 2018 – September 2020*

As the Technical Architect for a B2B2C e-commerce client, I was responsible for the complete technical overhaul and modernization of their platform to support rapid business growth.

Key Responsibilities & Achievements:

- **System Modernization:** Led the strategic migration of the platform's backend from a monolithic PHP application to a modern, scalable microservices architecture built with Java, NodeJS, and orchestrated by Kubernetes. This transition improved deployment frequency, enhanced fault isolation between services, and enabled independent scaling.
- **Infrastructure Design:** Designed the entire system infrastructure on AWS, creating a resilient and scalable environment capable of handling high transaction volumes.
- **CI/CD Automation:** Designed and implemented a complete CI/CD pipeline from scratch using Bitbucket Pipelines, JFrog, and Fastlane to fully automate the software delivery process from code commit to production deployment.

Technologies Used: PHP, NodeJS, Java, AngularJS, Microservices, AWS (Lambda, SQS, SNS, S3, SES, Step Functions), Bitbucket Pipelines, Firebase, JFrog, Fastlane.

Software Engineer | Education Solution | *June 2015 – January 2018*

Contributed to the development of a comprehensive software suite for educational institutions, which included a CRM, a Student Information System (SIS), and a Learning Management System (LMS).

Key Responsibilities & Achievements:

- **Feature Development:** Engineered key modules for the platform, including complex systems for managing extracurricular activities (ECA) and after-school activities (ASA), involving scheduling, enrollment, and reporting functionalities.
- **Full-Stack Contribution:** Participated in all phases of the development lifecycle, from detailed software design and coding in NodeJS and Java to writing unit tests and setting up system infrastructure.

Technologies Used: NodeJS, Java, AngularJS, Ionic, Microservices.

Developer | Video Online Project | *June 2013 – March 2015*

As a developer on this project, I contributed to building a media platform designed to serve video and music content to users by streaming over HTTP.

Key Responsibilities & Achievements:

- **Backend Architecture & Development:** Designed the core backend system structure and wrote robust backend code using PHP to manage media assets, handle streaming requests, and process user data.
- **API Development:** Created detailed technical designs for various backend tasks and implemented a PHP-based API for the frontend to consume.
- **Quality Assurance:** Developed comprehensive unit tests to ensure code quality and system stability. Actively participated in incident response and performed detailed bug fixing.
- **Frontend Collaboration:** Provided dedicated technical support to the frontend team, helping to resolve integration issues and ensure a seamless end-user experience.

Technologies Used: PHP API, JQuery, Bootstrap, WowZa streaming.

Education

UNIVERSITY OF SCIENCE – Ho Chi Minh City, Vietnam | *Graduated 2013 Bachelor of Science in Software Engineering*