Senior software engineer / cloud engineer

TARIQ SAIYAD

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I am a Software Engineer with a passion for solving complex problems and a proven track record of delivering performant, scalable, and accessible solutions. My expertise spans full-stack development and modern cloud technologies, including AWS and the AWS Cloud Development Kit (CDK). I have led projects end-to-end, from requirements gathering to deployment and BAU. I am a strong advocate for technical mentorship and inclusive team environments, I focus on fostering shared learning, continuous improvement, and successful outcomes.

EXPERIENCE

Ministry of Education New Zealand — *Senior software/cloud engineer*   April 2021 - Present

- **Lead Developer** for the Ministry of Education's flagship website and the New Zealand Education Curriculum (NCEA) website
- Developed and built **Drupal, Silverstripe, Next.js and Vue.js** websites and built web-accessible frontend components based on the ministry's design system
- Acted as a technical leader for the developers, resolving website infrastructure challenges, including deployment issues and debugging application code in cloud environments
- Provided mentorship and technical guidance through pair programming, code reviews, and documented best practices, fostering skill development and high-quality engineering practices
- Conducted knowledge-sharing sessions, addressing complex problems and offering solutions, which became a valuable resource for current and future projects
- Developed a **Vue.js + TypeScript** app to assist teachers in calculating classroom ventilation and improving air quality, utilizing Vuex for state management, TypeScript for type safety, and modular components for efficient, error-resistant development
- Worked extensively with AWS services to support DevOps efforts:
    - **CloudFormation and CDK**: For provisioning and managing website infrastructure
    - **EC2 Image Builder**: To create standardized cloud environments for development teams
    - **Elastic Beanstalk**: For deploying, upgrading, and debugging legacy infrastructure
    - **ECS**: To extend existing infrastructure and support new headless websites
    - **S3, Lambda, and RDS**: For creating and restoring database snapshots to ensure website data integrity
- I am currently working on the Ministry's Data Platform, leveraging AWS CDK to develop scalable and efficient data pipelines that provide actionable insights for improving New Zealand's school infrastructure. I've worked with the following AWS services on this project:
    - **Lambda**: To ingest data from APIs using Python
    - **S3**: For data storage and movement through the pipeline
    - **EventBridge and SQS**: To trigger and manage Step Functions workflows
    - **Step Functions**: To orchestrate the data transformation process
    - **Glue**: To facilitate data crawling and cataloging

Haunt Digital — *Full-stack developer*   November 2019 - November 2020

- Gained experience across a diverse range of frontend and backend projects, utilizing technologies such as **React**, **Ruby on Rails**, and **Drupal**
- Worked within **Agency Agile** methodologies, participating in project roadmap sessions with clients to thoroughly understand project requirements and objectives

- Took full ownership of a project to design and develop a web application that enables teachers to create personalized lesson plans. Built the solution from the ground up using **React**, delivering a user-friendly and scalable application

PROJECTS

[Education - NZ](#) — *Flagship website for the Ministry of Education*

I led the development of the flagship website rebuild within a cross-functional team, introducing the team's first headless architecture. By leveraging **Drupal** as the content management backend and the **React** framework **Next.js** as the frontend, I delivered an exceptional user experience for content authors, end-users, and developers.

I was instrumental in building accessible, responsive and performant React components and utilised a range of best practices. I also spearheaded the DevOps and CI/CD aspect of the project to ensure reliable code deploys. I used docker containers to deploy the apps to the cloud via **AWS Cloudformation**, **ECS, Lambda and Elasticache** for security, availability and scalability.

Additionally, I mentored and onboarded new developers, fostering their growth within the team, and regularly presented progress and key learnings to the wider team, ensuring alignment and shared understanding across stakeholders.

[NCEA Education](#) — *New Zealand curriculum website with resources, guidance and updates*

I served as the lead developer for the NCEA website, a Drupal-based platform incorporating Ministry of Education design system components built with Vue.js. In this role, I designed, implemented, and oversaw numerous features and improvements, including:

- Support for bilingual content in global English and Te Reo Māori.
- Advanced site search functionality powered by Algolia.
- A comprehensive homepage rebuild to enhance usability and engagement.

Additionally, I took the initiative to refactor large portions of the website, resulting in significant improvements to the user experience, performance, and code quality.

[drupal-fetch](#) — *Drupal JSON:API helper for javascript*

As part of the development for the Ministry of Education's flagship website, I identified the need for a library to interface seamlessly with the primitive Drupal JSON API in a headless app environment. I built and published this package to enhance the developer experience by allowing them to efficiently construct complex queries and send HTTP requests to the Drupal backend. It returns content in a consistent JSON schema, enabling easy consumption across any JavaScript application. This solution streamlined API interactions, allowed for type safety and significantly improved development speed and reliability.

KEY SKILLS

Web Development	Typescript, Drupal, Next.js (React), Vue.js, Angular, Svelte, Silverstripe, Tailwind
DevOps / Cloud	AWS, CDK, CI/CD pipelines (Github actions), Docker
Testing	Jest, Cypress, Selenium
General	Javascript, Python, Flutter (Dart)

Soft Skills

Leadership and Impact

I demonstrated strong leadership during my time at the Ministry of Education, particularly during the ministry's major restructure. I took on additional responsibilities, including leading knowledge-sharing sessions on new technologies and TypeScript to support team development. While leading the flagship website development, I fostered collaboration among developers, business analysts, and designers. My proactive communication ensured project requirements were understood, potential issues were addressed early, and the project was delivered on time. Simultaneously, I began work on the Ministry's Data Platform, quickly adapting to a new team and tech stack with AWS CDK, showcasing my ability to manage priorities and learn rapidly. During this period, I also became the de facto cloud engineer in the team, leveraging my AWS expertise to resolve deployment issues, decommission old websites, and upgrade legacy infrastructure.

Problem-Solving and Adaptability

I thrive under pressure and excel at delivering high-quality solutions within tight deadlines and budgets. For example, I successfully developed the classroom ventilation calculator app, collaborating with designers, end-users, and even a fluid dynamics physicist to ensure it met all requirements. On the flagship website project, I managed multiple responsibilities, including full-stack development, DevOps, and team collaboration, to ensure seamless project delivery. Similarly, in the Data Platform project, I built data pipelines using AWS services like Lambda, Step Functions, and Glue. I quickly learned AWS CDK and successfully designed and implemented the pipelines, demonstrating adaptability and a commitment to quality results.

Communication and Stakeholder Engagement

My ability to communicate complex technical concepts to diverse audiences has been pivotal to my success. I bridge the gap between technical teams and business stakeholders by articulating developer perspectives, addressing concerns, and recommending practical solutions. This skill was especially valuable during the ministry restructure and roadmap planning sessions, where I facilitated smooth collaboration across cross-functional teams and ensured alignment on project goals.

Commitment and Innovation

I am deeply committed to the success of every project I undertake. During a Drupal website project at the Ministry, I took the initiative to leverage Drupal's full feature set, diverging from our usual workflow to develop a more accessible and maintainable website. I shared my insights and learnings with the team, which has informed all subsequent projects since then. Additionally, I invested time into research and development to create the new headless architecture for the Ministry's flagship website. This involved identifying and resolving major technical challenges to ensure the solution's viability. Once I was confident in its potential, I further developed and refined the architecture, which became a cornerstone of the project's success. These efforts demonstrate my ability to innovate and take ownership, consistently delivering value to my teams and stakeholders.

EDUCATION

Victoria University of Wellington — *Bachelor of Engineering (Hons) in Software Engineering*

March 2017 - November 2020

- First Class Honours
- Vice Chancellor's Scholarship
- Dean's List for academic excellence (Average grade of A) from 2017-2020 inclusive