

Ibrahim Hussein – Full Stack Software Engineer

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Personal Profile:

I am an accomplished software engineer with strong expertise in **TypeScript, React, and Next.js**, building scalable and performant web applications. Alongside modern front-end development, I have a solid understanding of **cloud fundamentals** and hands-on experience with tools such as Docker and Terraform, enabling me to design and deploy applications in cloud environments. My background in software development equips me with the versatility to work across the stack and contribute to robust, user-centric solutions.

Certifications:

Amazon Web Services (AWS):

- Cloud Practitioner
- Developer Associate

HashiCorp:

- Terraform Associate (003)

Employment History:

Capgemini – Software Engineer/Consultant: March 2024 – Present

During my tenure as a Software Engineer, I have delivered measurable impact through the following key contributions:

Software Contributions (Node.js and TypeScript):

- Designed and developed **scalable server-side applications and RESTful APIs** with Node.js and TypeScript, ensuring high performance and maintainability.
- Improved **database scalability and reliability** by configuring MongoDB Atlas clusters for production workloads.
- Enhanced **application security** through MongoDB and HTML sanitisation, safeguarding against cross-site scripting (XSS) and injection attacks.
- Built **secure SQL connections** in TypeScript to ensure strong data integrity and resilience.
- Implemented **user authentication and session management** with industry-standard security practices, strengthening application trustworthiness.
- Integrated **third-party APIs and services** to extend application functionality, improving user experience and system interoperability.
- Developed and maintained **unit and integration tests** with Jest to ensure reliability and facilitate continuous delivery.

- Applied **asynchronous programming patterns** (Promises, async/await, event-driven architecture) to optimise performance under heavy I/O workloads.
- Containerised Node.js applications with **Docker**, enabling consistent deployment across environments.
- Collaborated with front-end teams to design and consume APIs, ensuring seamless integration with **React and Next.js** applications.

DevOps Contributions (AWS, Docker, Terraform):

- Improved operational efficiency by developing **CI/CD pipelines** to automate the build and push of Docker images to AWS ECR, as well as deploying applications to AWS Elastic Beanstalk.
- Enhanced **GitHub Actions pipelines** by implementing custom actions and reusable workflows.
- Implemented **secure infrastructure**, ensuring application secrets were only passed in at build time while utilising services such as AWS Elastic Beanstalk.
- Increased **resource usage efficiency** by containerising applications and implementing multi-container architectures with Docker Compose, along with Nginx routing.
- Managed **AWS infrastructure** using Terraform, focusing on service control policies, Route53, and related services.
- Built **secure, scalable infrastructure** by leveraging OpenID Connect with GitHub Actions and AWS, eliminating the need for hardcoded access keys.
- Implemented **event-driven architectures** using AWS EventBridge and Lambda, ensuring dependable and efficient production operations.

Leadership and Architecture Contributions:

- Led a team of 5 engineers in the **design, development, deployment, and containerisation** of applications across cloud environments.
- Mentored junior engineers through **tailored learning plans**, enabling them to achieve certifications and secure placements on client projects.
- Supported career progression by coaching engineers through promotions and building a culture of **clear growth pathways**.
- Organised and facilitated **bi-weekly training sessions** for 50+ DevOps and Software Engineers, featuring internal knowledge sharing and guest sessions from AWS and Azure Solutions Architects.

Freelance/Contracting – Full Stack Software and DevOps Engineer

Jun 2023 – Mar 2024

- Built **booking management and billing systems** for automotive companies, leveraging **Node.js** and **AWS** to streamline customer operations.
- Designed and implemented a **secure architecture**, enforcing strict IP whitelisting to

protect access to internal systems.

Software Core Skills

JavaScript/TypeScript: Advanced DOM manipulation, Data Structures, ES6+, OOP, asynchronous programming, AJAX/API integration, HTML5, CSS3, responsive design.

Web Development: Next.js (server-side rendering, static site generation, API routes), React (components, hooks, state management, reducers), Tailwind CSS, Bootstrap 5

Node.js: Express, NPM, REST API development, authentication (Passport), database integration (Mongoose), file system operations, Cloudinary integration, server-side rendering with EJS.

Databases: MySQL, PostgreSQL, MongoDB, MongoDB Atlas.

Version Control: Git fundamentals, branching strategies, GitHub workflows.

DevOps Core Skills:

AWS: Extremely high competency in all main services, as highlighted by my certifications.

Docker: Container creation/manipulation, custom images (Dockerfiles), Docker Compose, port mapping, containerise and deploy applications, container registries.

Terraform: All uses as per my certification – main use with AWS.

Linux: Download, install and configure, system access and file system, file permissions, input and output, system administration, shell scripting, networking, services and system updates, disk management and run levels.

Education

Queen Mary University of London
BEng in Electrical and Electronic Engineering — 2:1

Modules: Procedural Programming, Mathematics and Computing, Digital Systems Design, Power Electronics, Embedded Systems, Communication Systems.

Security Clearances:

SC Clearance (Active)