

# William Gan HanSong

BSc Information Technology | AWS Certified Solutions Architect

William Gan HanSong | Singaporean | [Portfolio](#) | [hswg94@gmail.com](mailto:hswg94@gmail.com) | +6584340897 | [LinkedIn](#) | [GitHub](#)

## Relevant Skills & Work Experience

Jan 2023 – Jan 2025

### Further Education and Upskilling in Cloud Computing

- Acquired **Degree in BSc Information Technology** with a **First-Class Honors**.
- Developed a **high-availability and scalable** tier-ed cloud architecture using **AWS** services like **IAM Roles, Security Groups, Route 53, EC2, Launch Templates (Bash), ALB, ASG, ACM, CloudFront, S3, Secrets Manager**.
- Established **CI/CD Pipelines** by integrating **AWS Connector for GitHub, AWS CodePipeline, AWS CodeBuild, and AWS CodeDeploy**, writing custom **AppSpec.yml** hook scripts to automate **application deployment**.
- Leveraged **Infrastructure as Code (IaC)** using **Terraform** to **fully automate provisioning** and enable **replicable, consistent, and efficient deployment**.

24 Aug 2021 – 7 Oct 2022

### Software Engineer @ NCS Group (Left for further studies)

- Enhanced the **data processing pipeline** by performing **code changes** to **Python** scripts.
- Promptly **Respond and Rectify** all application-related tickets on **JIRA**.
- Identify **System Stability** issues by analyzing logs in **Microsoft Azure**.
- Record changes to the application through updating/creating **software documentation**.
- Provide a summary of project changes to **stakeholders** by drafting **monthly reports**.
- Fulfill **data extraction** requests by writing **SQL statements** for **Microsoft SQL Server**.
- Resolve **security vulnerabilities** by identifying, updating, and verifying related libraries.

## Education & Certifications

Current - Jan 2025

May 2024

Mar 2024

Aug 2023

Jun 2021

May 2018

- **BSc in Information Technology, First Class Honours** – Teesside University
- [AWS Certified Solutions Architect Associate](#) – Issued by **AWS**
- [AWS Certified Cloud Practitioner](#) – Issued by **AWS**
- [Meta Front-End Developer](#) – Issued by **Meta** (ReactJS, UI/UX, Figma)
- [Google Data Analytics Professional](#) – Issued by **Google** (SQL, R Programming, Tableau)
- Diploma in Electrical and Electronics Engineering – **Republic Polytechnic**

## Skills

**Frontend:** HTML5, CSS, JavaScript, ReactJS, Redux

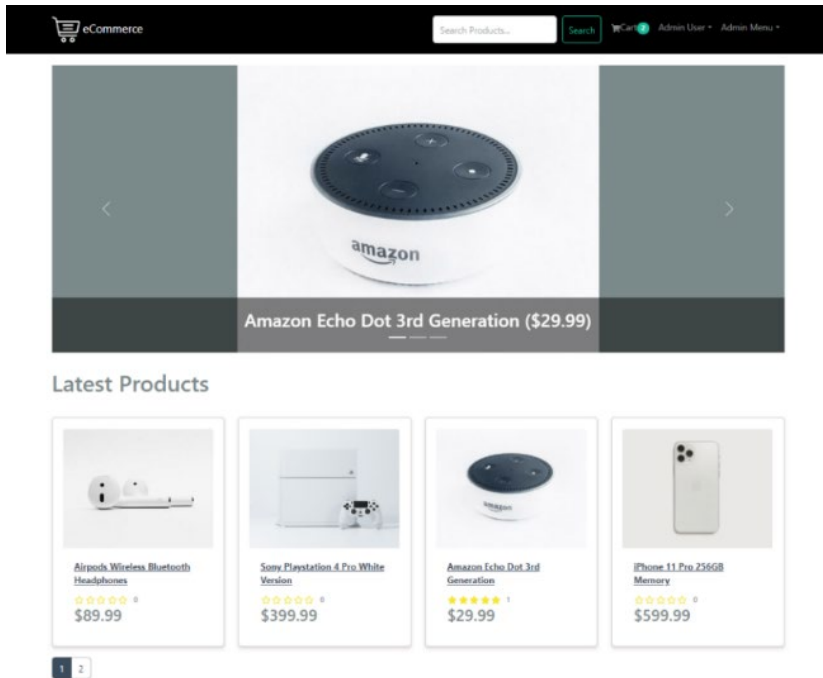
**Backend:** Node.js, Express.js, Django, MongoDB, SQL, NoSQL, REST APIs, JWT Auth, bcrypt, multer, cookie-parser, Cloudinary API, MapBox

**Tools:** **AWS**, Kubernetes, Docker, VM, NGINX, Git & GitHub, Postman, Figma, **Terraform**, PowerBI

**Programming:** JavaScript (ES6), Python, **HCL (HashiCorp Configuration Language)**, PowerShell, Bash

**Soft Skills:** Independent Learner, Team Player, Adaptability

# Mock E-Commerce System Project



## Application Features

- User Authentication & Authorization
- Cart and Checkout System
- Payment Gateway Integration
- Managing Listings and Orders
- Account Management Tools

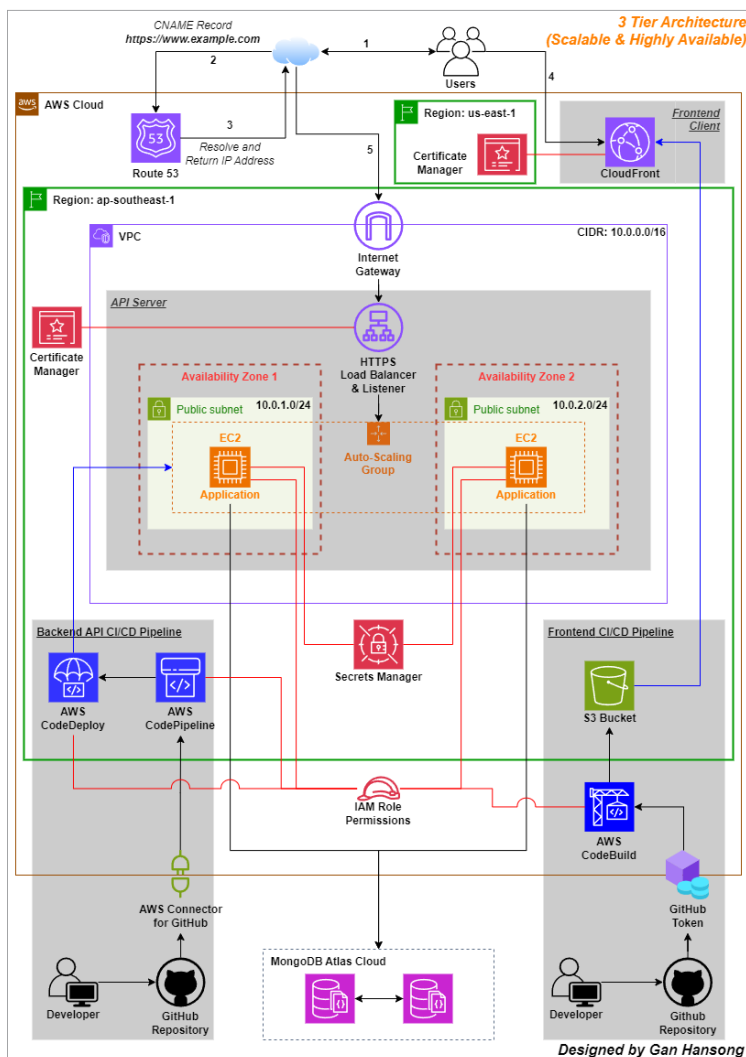
**Frontend:** Designed and implemented the user interface using React.js, styled with Bootstrap and manage state using Redux.

**Backend:** Developed APIs using Node.js and Express.js, secured with JWT-based authentication.

**Technologies:** React.js, Redux, Node.js, Express.js, Bootstrap, JWT Authentication, MongoDB, Cloudinary API.

**GitHub:** [github.com/hswg94/ecommerce-react-frontend](https://github.com/hswg94/ecommerce-react-frontend)

**GitHub:** [github.com/hswg94/ecommerce-express-api/](https://github.com/hswg94/ecommerce-express-api/)



## Cloud Architecture Design

The application is deployed in a **scalable and high-availability** system leveraging using AWS Cloud services and **Terraform for IaC**.

**Frontend Application:** Hosted static assets on S3 with global distribution through CloudFront (CDN).

**Frontend CI/CD Pipeline:** Used AWS CodeBuild to detect changes from GitHub, pull the repository and build, and store in S3 bucket.

**Backend Application:** Used EC2 instances in Auto Scaling Groups behind a Load Balancer for scalability.

**Backend CI/CD Pipeline:** CodePipeline to detect changes on GitHub, trigger CodeDeploy to release new versions onto EC2 instances in the Auto Scaling Group with zero downtime using Blue/Green Deployment.

**Services:** Route 53, Certificate Manager, Secrets Manager, IAM, S3, CloudFront, VPC, IGW, Subnets, Route Tables, EC2, Load Balancer, Target Groups, Auto Scaling Groups, CodeBuild, CodePipeline, CodeDeploy.

**GitHub:** [github.com/hswg94/ecommerce-terraform](https://github.com/hswg94/ecommerce-terraform)