

# Tim Cooke

## Software Engineer and Architect

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### Summary

I have an extensive track record delivering quality software solutions in multiple problem domains, multiple programming languages, and in multiple programming paradigms. A pragmatic and straight forward test driven approach to building systems meets the needs of today while being flexible for tomorrow. I write software to be read by humans, clean well organised code with a focus on automated testing and useful documentation. I foster an iterative workflow to deliver value and gain feedback early and often.

### Technology capabilities

Java, Spring Boot, Maven, JUnit, REST API, Cucumber, Spock, Geb, Mockito, Cypress, JDBC, Hibernate, Oracle, PostgreSQL, MySQL, Tomcat, Linux/POSIX, JSP, HTML, CSS, jQuery, TypeScript, Javascript, Node.js, npm, Vue.js, Vite, Vitest, Jest, Python, pip, poetry, uv, pytest, unittest, Groovy, Kotlin, Clojure, Gradle, AWS compute, networking, messaging, IAM (too many to list), HdrHistogram, Erlang, Elixir, Scala, BASH, Expect, sed, awk, C, C++, OSGi, Swing,

### Axial3D: Software Architect

**2019 - present**

As lead software engineer and architect I design, build, and deliver software as a *Medical Device* that meets strict quality and security constraints.

- Design Cloud native event driven systems in AWS taking a “serverless first” approach to solution selection.
- Build application and environment definition in Infrastructure as Code with AWS Cloudformation and SAM.
- Deliver FDA compliant, cyber secure, software with automated software delivery pipelines.
- Facilitate architectural decisions and capture with ADRs (Architecture Decision Records).
- Engage with leading healthcare organisations to propose technical integration solutions.
- Scalable Java containers with AWS ECS, Fargate, and Application Load Balancer.
- A certified ISO27001:2022 lead implementer supporting multiple years of continued accreditation success.

### CME Group: Snr Software Engineer

**2012 - 2019**

Part of the Trade Execution team developing enhancements to the Match Engine, the core of the financial exchange business where functional correctness and operational stability is critical.

- High performance and low latency solutions in Java.
- Critical attention to detail on quality and automated testing (Production outages are global news).
- Techniques in Java to avoid Garbage Collection.
- Performant single threaded execution on multi-core CPU architectures.
- Emphasis on good programming practices to produce clean, clear, readable, and maintainable code.

### Education

- **MSc** Multimedia Technology – University of Bath
- **BSc** Electronic Communication Systems – University of Plymouth
- **BTEC National Diploma** Computer Engineering – Aylesbury College

### Voluntary

- Sheriff (Administrator & Moderator) [CodeRanch.com](http://CodeRanch.com)