

**Adam Lynam**

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## Personal Statement

I have observed that the best outcomes from software come when we treat technology as a tool to enable people to be more effective. This means thinking wider than just how to build, test and deliver something, we need to measure and reflect on if software has been well received by the users whose lives are touched by it. It means more than just following instructions, we should actively seek clarification and opportunities to better understand and learn from each other.

## Experience

### Language-agnostic Development

I haven't defined my career by the technology I have used because a single programming language is rarely the right tool for the job. A key aspect of embracing a DevOps mindset is considering both how an application is built AND how and where it will run. At SECTION6 and Toitu Te Whenua LINZ, I leveraged TypeScript with NodeJS to build responsive React-based frontend experiences. In the Ministry of Social Development, I used Python and R to support data-driven decision-making within the Data Science and Products team. At Toitu Te Whenua LINZ, SECTION6 and my roles in the UK government, I used Kotlin, Java and Scala, all targeting the Java Virtual Machine (JVM), to build REST based API services.

### Sharing Knowledge and Establishing Better Practice

Sharing knowledge and improving practice are ways to have an impact greater than your individual contribution can be. I excel in fostering a collaborative and knowledge-sharing culture, evident in recent roles where I actively contributed to the growth of team expertise. At SECTION6, I lead a development team in the Water Services Reform project, demonstrating my commitment to knowledge transfer by supporting less experienced developers, setting development patterns, and providing hands-on guidance. At both Ministry of Social Development and Catalyst IT, I proactively improved team development practices, ensuring the delivery of high-quality software. By leveraging my strong background in both development and infrastructure, I engaged with cross-functional teams, sharing insights and implementing best practices. My commitment to enhancing team capabilities is further highlighted by my efforts at Toitū Te Whenua LINZ, where I shaped our communities of practice, bringing people together from across the organisation. I have honed my ability to share knowledge effectively and drive continuous improvement within dynamic project environments.

### Testing and Pipeline Automation (CI/CD)

Delivery practices that promote continuous integration; like regular small changes and automated pipelines create a foundation of reliability in a software project that manual processes cannot match. At the Ministry of Social Development, I orchestrated workflows using AWS CodePipeline, enhancing deployment efficiency for the Data Science and Products team. During my time at Catalyst IT, I utilised GitLab CI and GoCD to automate deployment processes, contributing to the efficient hosting and development of open-source learning software. At SECTION6, I successfully implemented GitHub Actions for the Water Services Reform project, ensuring seamless and reliable feature delivery. My adeptness with a variety of CI/CD tools highlights my ability to optimise and streamline software delivery in dynamic and collaborative environments.

### Observability and Data Driven Decision Making

I have learned that collecting telemetry and monitoring software performance is key to ensuring that a solution is fit for purpose and that it is running well. At Toitū Te Whenua LINZ, I utilised New Relic instrumentation and Kibana dashboards to monitor and optimise backend services and inform improvements to frontend user experiences. At SECTION6, I used AWS CloudWatch dashboards to monitor load and performance of AWS resources for the Water Services Reform project, ultimately facilitating an efficient data migration. During my time at the Ministry of Social Development, I played a key role in supporting the Data Science team, implementing data-driven practices and contributing to informed decision-making within a dynamic environment. My expertise in Python, coupled with observability tooling, enhances operational insights and drives effective solutions.

## Recent Work History

### Senior Software Developer Team Lead - SECTION6 (since February 2023)

- Lead on the development of the Data Migration Portal for the Water Services Reform (previously known as Three Waters) project run by DIA.
- The Data Migration Portal guides NZ council users through the process of uploading their data and describing how their fields map against a new data standard.
- React-based TypeScript frontend experience feeding data via REST-based APIs from Java backend running via Quarkus on AWS Lambda. Uploaded files and metadata was persisted in AWS S3 and DynamoDB. AWS Resources were described via Terraform. GitHub Actions were used for CI/CD pipelines. Some non-core tasks were expressed via NodeJS and Golang scripts as well.
- Built AWS CloudWatch dashboards to monitor trends in backend services and used AWS CloudWatch Alerts to configure real time notifications of production issues.
- My role on the project was split between delivering software architecture, setting development patterns, supporting less experienced developers, delivering features and support of the application.

### Cloud Automation Specialist - Ministry of Social Development (April 2022 - October 2022)

- I was in charge of "productionising" data and other insights the Data Science and Products team produced. This included publishing new live applications, automating manual processes and delivering new features to existing applications.
- Successfully delivered a major change to an existing legacy system used to connect jobseekers with employers that had a large number of stale data records to clean up.
- The team manages a large number of applications and scripts to support the Ministry so the role had a heavy emphasis on keeping things running using automation.
- Applications coded with Python and R backends and EmberJS-based or vanilla JavaScript frontends.
- Supporting the team with generating application activity insights via AWS CloudWatch.
- Improved software development practice within the Data Science team to ensure quality software was being delivered to all projects.

### Senior Software Developer - Toitū Te Whenua LINZ (May 2020 - April 2022)

- I was an experienced software developer on the Common Services team within the Survey and Title Enhancement Programme. This programme of work was replacing the legacy Landonline software with a fresh web-accessible experience.
- The Common Services team was responsible for building shared components like identity management (login, authorisation and new accounts), application settings, digital signatures and file upload for other delivery teams to make use of. Our primary product was the public facing Land Record Search web service.
- I successfully rolled out a common logging and request tracing solution to all microservices in the entire programme using OpenTelemetry standards.
- Services were built with Kotlin backends running on AWS Elastic Container Service and had paired React-based TypeScript frontend experiences that queried data via REST APIs. Data was persisted against a Legacy Informix database when required, and AWS DynamoDB for new functionality.
- Front and backend services were instrumented by New Relic, I used the telemetry gathered to build dashboards and create real time notifications which were managed via OpsGenie oncall rosters.
- As the team was fully autonomous, I contributed to the entire delivery process: design, coding, testing, deployment and operation of our services.

Please see <https://lynam.co.nz/history> for my full work history

## Education

### University of Waikato, Master of Science (2007-2009)

Thesis title - Prediction of Oestrus in Dairy Cows: An Application of Machine Learning to Skewed Data

## Programming Expertise

Language	Confidence	Experience	Been Using For
JavaScript/NodeJS	Strong (Fresh)	SECTION6, MSD, LINZ, HMRC, DWP, KAMAR, Catalyst	16 years
HTML	Strong (Fresh)	SECTION6, MSD, LINZ, HMRC, DWP, KAMAR, Catalyst	16 years
CSS	Strong (Fresh)	SECTION6, MSD, LINZ, HMRC, DWP, KAMAR, Catalyst	16 years
Java	Strong (Fresh)	SECTION6, LINZ, DWP, HMRC, Masters Work, KAMAR	8 years
Python	Strong	MSD, Catalyst, InTouch	8 years
PHP	Expired	KAMAR, Catalyst	8 years
C#	Expired	Firefly, Personal Projects	6 years
Kotlin	Rusty	LINZ	2 years
Scala	Rusty	HMRC	1 year

## Platform and Infrastructure Expertise

Tool	Confidence	Experience	Been Using For
Docker	Strong (Fresh)	SECTION6, MSD, LINZ, Catalyst, HMRC, DWP	7 years
Amazon Web Services	Strong (Fresh)	SECTION6, MSD, LINZ, HMRC	6 years
OpenStack	Strong	Catalyst	2 years
Terraform	Strong (Fresh)	SECTION6, MSD, Catalyst	3 years
CloudFormation/CDK	Strong	MSD, LINZ	3 years
Ansible	Rusty	Catalyst	2 years
Puppet	Rusty	MSD, Catalyst, DWP	2 years
Jenkins	Rusty	LINZ, Firefly, HMRC, DWP, Catalyst	6 years
GitHub Actions	Strong (Fresh)	SECTION6, LINZ	3 years
Groovy	Rusty	LINZ, DWP	2 years
GoCD	Rusty	Catalyst	2 years

## Database Expertise

Database Software	Confidence	Experience	Been Using For
PostgreSQL	Strong (Fresh)	MSD, Catalyst, LINZ, HMRC, DWP, InTouch, Personal Projects	9 years
MySQL	Moderate	Personal Projects, Masters Work, Evos, Web-Spring, KAMAR, Firefly	9 years
FileMaker	Expired	KAMAR	4 years
MongoDB	Moderate	LINZ, HMRC, Firefly	3 years
DynamoDB	Moderate (Fresh)	SECTION6	1 year
Microsoft SQL Server	Expired	Firefly	1 year

## Notable Software Expertise

Software	Confidence	Experience	Been Using For
Linux/UNIX Like	Strong (Fresh)	SECTION6, MSD, LINZ, Catalyst, HMRC, DWP, KAMAR	20 years
Django	Strong	MSD, Catalyst	3 years
Elastic Stack	Moderate	LINZ, Catalyst	3 years
scikit-learn	Strong	MSD, InTouch, Personal Projects	4 years